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CLASSIFIED BY _____
 SUBJECT TO GENERAL DECLASSIFICATION
 SCHEDULE OF EXECUTIVE ORDER 11652
 AUTOMATICALLY DOWNGRADED AT TWO YEAR
 INTERVALS DECLASSIFIED ON DECEMBER
 31, 1968

52d AEW&C Wing (AWC), McClellan AFB, California

31 December 1960

AUG 3 1979

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Section I.

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1. UNIT AND LOCATION

552d AEW&C Wing (ADC)
McClellan AFB, Calif

2. NAME AND GRADE OF COMMANDER

ROBERT J LOUGHRY
Colonel, USAF

3. CHAIN OF COMMAND (Superior Echelons)

28th Air Division (SAGE)(ADC)
Air Defense Command
United States Air Force

4. SUBORDINATE UNITS (Down to and including squadrons)

- 963d AEW&G Squadron (ADC)
- 964th AEW&C Squadron (ADC)
- 965th AEW&C Squadron (ADC)
- 552d Electronics Maintenance Squadron (ADC)
- 552d Field Maintenance Squadron (ADC)
- 552d Organizational Maintenance Squadron (ADC)

5. MISSION (Give authority and brief statement of primary mission)

Authority: 28th AD Regulation 24-2, 1 Jul 60. To provide airborne early warning and control in the Air Defense combat zone. To support the operation of other commands as directed by higher headquarters. To participate in the USAF collateral mission of antisubmarine warfare as directed. To augment air weather service and to administer, equip, train and prepare for combat in accordance with directives and policies of higher headquarters.

6. PERSONNEL

	OFFICERS	AIRMEN	CIVILIANS	TOTAL
ASSIGNED	421	1954	10	2385
ATTACHED	0	0	0	0

7. EQUIPMENT (Give official nomenclature and quantity of mission-type equipment)

- TC-121C - 3
- TC-121D - 35
- U3A - 1

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- (S) During the fourth quarter calendar year 1960 we flew a total of 16,315:50 hours of 16,365 hours programmed. Of the total, 8,797:50 hours on-station time was programmed and 8,401:11 hours were flown giving an effectiveness rating of 95.6% for the quarter.
- (S) A total of three deployments in support of project Discoverer were made to Hawaii during the quarter. The 23 October deployment was unsuccessful due to failure of capsule to orbit. Four RC-121 aircraft of the wing and approximately 100 personnel participated in the successful recovery of capsules on 14 November and 10 December 1960.
- (S) A representative of this headquarters, designated as wing project officer on project "Ice Cube Two," participated in a tactics planning conference at Headquarters, 28th NORAD Region on 21 October 1960. "Ice Cube Two" was a program to develop tactics and techniques to be used by ADC interceptors against aircraft flying at altitudes of 65,000 feet or higher. The wing participated in the first successful "Ice Cube Two" mission on 29 November 1960. The F-101 target aircraft was detected and intercepted from the airborne platform. Two previous missions, scheduled on 4 and 18 November, were unsuccessful. In the first mission, the B-57D target aircraft aborted; in the second mission, the Pacific Missile Range could not provide clearance into the warning areas.
- (U) During the quarter a study was conducted of aircrew ground training requirements with an aim toward elimination of superfluous training, and a possible consolidated training effort to reduce training overhead and improve the quality of training. This study was completed in December and is currently being coordinated through the staff and subordinate units for comments and suggestions for implementation.
- (U) Aircraft recognition tests were given to all pilots during the period 5 through 16 December 1960. 87.2% of assigned pilots meet ADCR 50-6 requirements.
- (U) As a result of a conference with Naval representatives from Treasure Island, San Francisco, California, on 17 November 1960, our directives have been revised to include a new and more comprehensive form for inclusion in pilots kits for reporting of visual submarine sightings. The Navy also issued two K-20 cameras to test the feasibility of taking aerial photography of future sightings.

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(U) The following summation constitutes training accomplishments for the fourth quarter calendar year 1960.

Physical Conditioning: A total of 4,797 personnel were processed through the physical conditioning unit for general physical training and massages.

Flight Simulator: A total of 624 hours were scheduled on the MB-13 simulator of which 612 hours were utilized. This represents a 98% utilization rate for this item of equipment.

Instrument Ground School: Fifty pilots attended the ground school.

Field Training Detachment: Training conducted by the 510th FTD in support of the wing is primarily of a specialized nature. During the quarter, the wing utilized the services of this detachment and accumulated a total of 19,374 manhours of training.

Physiological Training: A total of 33 personnel participated in physiological training at Mather AFB. Total accumulated manhours were 198.

Dualex Training: A total of 3791 manhours of training was devoted to this subject. Current input of students remains at five per squadron for an eight weeks course of instruction.

Radar Operator Training Course: Twenty-two wing personnel graduated from this course representing a total of 889 manhours of training.

Systems Training Mission: The system training branch had available 241 training periods of which 209 were utilized. This represents 87% utilization. The systems training branch had available 4,515 training manhours of which 3,658 were actual training manhours.

Survival and Wet Ditching: Survival and ditching training was conducted with attendance of 130 personnel for a total of 1,040 manhours.

Navigation Training: During this quarter a wing navigation school was established to complete requirements of ADCM 51-2, Volume VIII. A total of 1,625 manhours of training was conducted for navigators.

Weapons Qualification Program: A total of 4,512 manhours were expended meeting requirements of AFR 50-8.

Materiel:

(If additional space is required, continue on blank sheets, size 8 1/2 x 11, appropriately numbered, and attached securely hereto)

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TYPED NAME AND GRADE OF COMMANDER
ROBERT J LOUGHRY, Colonel

SIGNATURE

Robert J. Loughry

Electronic Maintenance:

(U) AN/APS-95 Radar: During this period a slippage occurred in the APS-95 retrofit program due to labor difficulties at the east coast PARC facilities. Input of 552d Wing aircraft was withheld for a period in order to put 551st Wing aircraft into SMAMA to allow their aircraft to catch up with the ALRI program. An additional facility was contracted at Lockheed, Ontario, in an effort to bring the program back on schedule; however, due to logistic support problems and design deficiencies within the system, no appreciable time was recovered.

As of 31 December the inventory status of APS-95 equipped aircraft was 13 on the line, five in modification at SMAMA and one in modification at Lockheed, Ontario. The aircraft at Ontario was forecast to be released the first week in January 1961. Area maintenance assistance work was completed on aircraft 400 and the aircraft returned to line operation. This made a total increase of three for the month of December and a corresponding increase in electronic maintenance workload was evidenced.

Considerable difficulties and long delay times were experienced in turnaround for APS-95 equipped aircraft. This was attributed to poor quality design in the transmitter group assemblies, and primarily the charging reactor, charging transformer and the pulse forming network. These units are oil filled and are shorting out internally after a period of operation and causing a dead overload condition. After a period of cooling, the oil acts as a self-healing agent and without adequate test equipment, it has been virtually impossible to duplicate the reported condition. Many cases of this nature were reported in December and since the only APS-95 system check was an APS-95 mockup set in the shops, many bad components were removed, checked good, and replaced on the aircraft. It was apparent that this did not correct the malfunctions but attributed heavily to an increased abort rate and an increase in direct manhour work requirements.

(U) APS-95 Test Consoles: The APS-95 test consoles were off-loaded at the 552d Electronic Maintenance Squadron on 2 December and wiring-in completed on 12 December. Initial service testing revealed so many factory design deficiencies and such poor quality performance that a request for depot assistance was made on 20 December. As of 31 December, this request had not been fulfilled by Dayton AFD.

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Even though the quality of this test equipment was poor, our own technicians improvised temporary wiring that permitted the use of most consoles--at least on a temporary and partial basis.

(U) APS-95 Equipment Engineering Changes: A team of Hazeltine personnel arrived at this headquarters on 1 November to perform manufacturer's engineering changes on APS-95 equipment. Approximately 5% of line operating receivers had been retrofitted, but on 15 November the team departed for Lockheed, Ontario, to retrofit Otis aircraft. Upon completion of work at Ontario, the team was expected to return to this station to complete retrofit of receivers and to refit all SM-190 monitor groups to the latest engineering changes. The Hazeltine team did not return to McClellan as expected and at the close of this period, only two receivers had been updated. A formal letter was being prepared to Hazeltine requesting their intentions.

(U) APS-95 Task Group Meeting: Personnel from this headquarters attended a task group meeting at Dayton AFD on 14 and 15 November. Topics of discussion of major importance to this wing were as follows:

(1) ADC requested full declassification of the APS-95. WADD made tentative agreement and will forward declassification instructions.

(2) Hazeltine advised that at least 20 in-flight kits (in-flight spares) would be delivered to each wing by the end of November. ADC was taking action to class the in-flight spares as 780 equipment.

(3) Hazeltine was requested by the operating wings and Dayton AFD to expedite shipment of updated schematics and maintenance instructions for modifications and retrofit work which was being accomplished. Wings were asked to inventory all APS-95 components by serial number and submit to Dayton and Hazeltine. Our inventory was completed and submitted to SMAMA on 25 November.

(4) Hazeltine advised that production of follow-on spare parts had begun and delivery will commence in April 1961 with complete delivery expected by September 1961.

(5) The AWP situation at this wing was a major topic of discussion and representatives of this headquarters received complete

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support from other command representatives. Dayton AFD agreed to ship needed parts immediately. This wing received shipping information the last week in November. Our components out of service for parts continued to pile up and backlog. The promised 60-day level of required parts had not been received at the end of this period and command assistance was requested.

(6) Hazeltine informed attendees that their contract with Bomac for the BLT 004 tube had been broken and the Metcom tube was being procured. Dayton AFD advised that the depot was also investigating possibilities of procuring the Metcom tube. Hazeltine requested the return of all BLT 004's made by Bomac and stated that replacement would be made, item for item, at no cost to the government. This wing commenced a service test of the new TR tube manufactured by Metcom Laboratories, as a possible replacement for the BLT 004. Ten of these tubes had been installed and expected to last approximately 500 operating hours.

(7) SMAMA stated that all refitted aircraft, in the future, would have antenna mod #2 accomplished prior to delivery. SMAMA would also make contact with operating wings to establish a mod schedule for the antenna mount beef-up and to install antenna mod #2 on those aircraft previously delivered.

(8) Due to the many engineering changes, retrofits and modifications to the APS-95 radar, the possibility of confusing modified and unmodified components was a very strong possibility. Dayton was requested and agreed to publish a record type technical order to standardize all markings.

(U) APS-95 Predominant Failures: Poor quality production items caused the majority of APS-95 problems during this period and the four most predominant failures were the BLT 004 TR tube, the SA-637 RF switch, compressor motors (HD-336) and the charging reactor, part of the MD-339 modulator. These failures resulted from admitted factory design errors and all units are being replaced at no cost to the government.

(U) IP-462/APS-95 Scope: A preliminary discussion regarding overhaul and rebuild of IP-229 consoles or possible replacement took place at Dayton AFD during the recent APS-95 task group meeting. This

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headquarters just completed an evaluation of the IP-462/APS-95 scope as a possible replacement. Recommendations were forwarded to ADC for consideration of replacing the existing IP-229 consoles with IP-462, incorporating modified provisions that exist in IP-229 consoles.

(U) Aircraft Incident: An incident occurred with one aircraft which caused the entire transmitting system to become contaminated with coolant liquid. Erroneous fittings and lack of coding attributed to the error. Action has been taken to color code all fittings, air and coolant lines to prevent recurrence. The aircraft was returned to SMAMA facilities to be reconditioned.

(U) Radiation Hazards: Contact was made with WADD for firm resolution regarding radiation hazards and damage of refueling aircraft in the proximity of operating radar equipment. Upon receipt from ARDC and WADD, appropriate wing regulations were published for control of ground operation of radar equipment.

(U) AN/APS-T4 Trainer: The basic T-4 trainer construction was completed this period with only the air conditioner not yet functioning. Some delay was caused by burnout of the motor generator; however, civil engineering rebuilt this unit and the trainer was ready for full-scale tests. It was formally dedicated on 9 December and released for scheduled operations. The electronic maintenance squadron did an exceptionally fine job of design and installation.

(U) GPS-T4 Trainer: Information was received from Ogden AMA, prime for trainer devices that only one modified GPS-T4 (a new design target simulator) would be installed for the 552d Wing. Modification and installation was forecast for May 1961.

(U) Height Simulator Problems: As a followup on a command assistance request to resolve the target height simulator problems, a phone call was made to Ogden AMA on 20 December to attempt to gain information on depot intentions. Informal information was that ADC recognizes that height simulation is not essential to the T-4 type training in view of the many technical problems involved. This headquarters had not been so advised, and followup action on the request for command assistance was being initiated.

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(U) **Reparable Items, T-4 and MB-13:** By request, authority was granted this wing by Ogden AMA to ship certain items of the T-4 and the MB-13 direct to the manufacturing agency for repair. Considering the limited number of these items produced, this was considered the most economical and most expedient method of maintaining the operating capability of the trainers.

(U) **Communications and Nav/Aids:** With compliance of T.O. 1C-121R-573 which gave the pilot UHF backup capability using set #7 and #8, the radio operator lost capability to monitor UHF set #6. An operational requirement exists for radio operators to monitor and log all radio transmission. This requirement was submitted to SMAMA for engineering study. With the advent of T.O. 1C-121-733, this headquarters devised a means of restoring this capability to radio operators. Permission was given by SMAMA for a prototype installation and was completed and evaluated. This modification was submitted to SMAMA and T.O. 1C-121-733 was to be revised accordingly.

(U) **ARC-5 Radio:** A request for Class V modification to remove ARC-5 radio equipment was submitted by this headquarters. An interim Class I modification was authorized to remove Group "B" (black boxes) components. Class V modification to remove the entire ARC-5 system was finally approved and is pending formal publication as a technical order by SMAMA.

(U) **Single Sideband HF Radios:** This wing received definite word that single sideband HF radios were programmed for installation in our fleet. As of 31 December no further word on the program had been received, but it was expected to commence during the latter half of FY 1961.

(U) **T.O. 1C-121-733:** T.O. 1C-121-733, installation of pilot's UHF fingertip control box (C-1904) was published. This was previously complied with on all "C" models on an interim authority from SMAMA. Difficulties experienced with pre-set channels were resolved to be inexperience and unfamiliarity of operation.

Maintenance:

(U) **Aircraft Inventory:** The possessed aircraft inventory was reduced to a critical low (27 aircraft) due to extended flow times on APS-95

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modification. Current flow time averaged 60 days as opposed to programmed flow of 45 days. Fleet inventory as of 31 December:

RC-121D

13 AN/APS-95 equipped
16 AN/APS-20 equipped
6 in modification (not possessed)

TC-121C

2 possessed
1 in depot for major flap
track replacement

(U) Abort Statistics:

AAD Mission Aborts

<u>Month</u>	<u>Total AAD</u>	<u>Radar</u>	<u>Aircraft</u>	<u>Other</u>
October	29	8	20	1
November	23	4	19	0
December	36	14	22	0

(U) Unsatisfactory Reports: A total of 77 unsatisfactory reports was submitted during this quarter. A rising trend was noted, especially in engine UR's; 19 in October, 21 in November and 37 in December. Due to the number of UR's submitted on engines overhauled by Aerodex, SAAMA initiated a quick-fix program. Of the 37 UR's in December, 28 were written against engines.

UR 60-257 cited a quality control deficiency in newly overhauled manifold pressure transmitters, type ST-5E. MAAMA replied that the deficiency was due to an error in the overhaul technical order, T.O. 5P5-3-7-3, and that action was being taken to correct the T.O. and have deficient transmitters recalibrated. Project was subsequently closed.

(U) Training: Coordination was completed during this quarter for 147 officers and airmen to attend AMOP-AFM 66-1 training. In addition, 7 airmen were scheduled for aircraft electrical, 7 for autopilot, 6 for aircraft radio, 6 for nav-aids, 4 for GSE electrical and 42 for APS-95 training.

(U) Aircraft Washing Contract: The wing assistant maintenance control officer attended the facilities capability survey on the evident low bidder for the aircraft washing contract. 1

1. Attachment 1, Trip Report, 30 Dec 60.

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(U) Diversions: Above-normal periods of fog and low visibility resulted in a record number (36) of terminal diversions during December. Consolidation of the diverted aircraft with the normal scheduled returns during short periods of clear weather resulted in peak maintenance workloads during swing and night shifts and greatly increased scheduling problems.

Civil Engineering:

(U) Military Construction Program: During this period the wing facilities utilization board determined its fiscal year 1963 Military Construction Program to be forwarded to Hq USAF. The program consisted of four projects totaling \$1,306,000.

Projects for construction of fleet service and warehouse, supply and issue buildings have been deleted from fiscal year 1962 MCP by the office of the Secretary of Defense on 5 December 1960. These projects are being prepared for inclusion in the FY-63 program.

(U) Operations and Maintenance Program: The fiscal year O&M program was prepared and approved. This consisted of 13 projects totaling \$156,550.

(U) Fire Prevention Program: Wing civil engineering officers initiated the fire prevention week program within the wing. Results of the program saw the 963d AEW&C Squadron winning the base annual fire prevention trophy (for the second year in a row) and the 552d Electronics Maintenance Squadron taking second place.

Supply & Services:

(U) Fleet Service Section: This quarter has been the first full period of operation of the 552d fleet service section by the civilian contractor. Excellent results have been obtained in the quality of the work and the spirit of teamwork and cooperation that exists between the military and civilians. This section is definitely mission oriented.

Also gratifying has been the cost to the Air Force for this service. Fifteen months ago, the fleet service section had UMD authorization for 27 airmen, representing a potential monthly expense of \$5,580.60

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for salaries. At that time, this headquarters reviewed the work specifications and forecast a monthly cost of \$3,500 for the civilian contract. The approved billing for November 1960 was \$3,526.

(U) Emergency Landing of Aircraft: On two separate occasions, aircraft of the 552d Wing had to make emergency landings at Alameda Naval Air Station because of an inoperative engine. Both cases necessitated engine changes and the transporting of serviceable engines to Alameda and reparable engines back to SMAMA.

(U) Linen Exchange Section: On 15 December 1960, the "Consolidated Linen Exchange Section" was established in the 552d Wing. This was the first step in a planned program to centralize all housekeeping activities, thereby simplifying the eventual wing consolidation of all supply activities.

(U) Stock Record Cards: A complete reconstruction of AFN account stock records (84B's) was initiated. In the past, the rapid expansion of the "N" account operation necessitated a sacrifice of records refinement for direct aircraft support. The reconstruction of the stock record cards will be completed in the very near future and should eliminate most of the existing errors and improve accounting methods and procedures.

(U) Rewarehousing: Complete rewarehousing of the "N" account is near completion. With the process of rewarehousing, all locations have been verified or changed to reflect the true location.

(U) Project "Let Loose:" In compliance with project "Let Loose" under the direction of ADC, all line items were being reviewed against available consumption data in order to purge our facilities of all excess material which became overage, outdated and no longer suitable to our needs.

(U) Inventory: At the end of this period a complete inventory of the "N" account was in the process of being accomplished and was expected to be completed in January 1961. This was long overdue and should bring the stock record balances up to date.

(U) Materiel Control: Materiel control is now operating and complying in accordance with the contents of AFM 66-1. This has relieved

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the "N" account of the added responsibility of processing the majority of reparable items for base and field maintenance repair. This in turn has released the needed manpower to other sections where a shortage of manpower exists.

The "N" account will transfer several supply personnel to materiel control as soon as practicable in order that they may manage and fulfill their requirements in accordance with current directives.

AFN account was in the process of transferring to materiel control the responsibility of maintaining bench stock and pre-issue items in support of the ground power section of the field maintenance squadron. Target date for completion was 9 January 1961.

(U) Support Problems: Support to maintenance, in general, was above par; however extreme difficulty was experienced in securing sufficient quantities of power recovery turbines shields used on our aircraft engines. Command assistance was requested and as of this date, this problem had not been resolved.

Extreme problems were encountered in support of the APS-95 radar which was in the process of replacing the APS-20 radar. Promised spare parts to support those aircraft already retrofitted with the new equipment were not received. The percentage of ANFE's increased considerably due to this condition.

Personnel:

(U) Effective 2 November 1960, personnel functions were removed from subordinate units and consolidated at a centralized location in wing headquarters. This activity has been broken down into four operating functions: officer personnel, airmen personnel, special actions division and training division.

(U) Overall airmen manning within the wing remains favorable; however, shortages exist in the following specialties and manning assistance was requested from 28th Air Division: 301X1 (aircraft electronic navigation equipment repairman), 422X0 (instrument repairman), 552X1 (painter), 421X1 (aircraft propeller repairman), 432X1 (reciprocating engine mechanic), 582X0 (fabric leather and rubber products repairman), and 732X0 (personnel). Headquarters, 28th Air Division has advised that manning assistance in AFSCs

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301X1, 422X0 and 552X1 will be forthcoming, however, immediate manning assistance is not available in remaining AFSCs since our manning level in those AFSCs is comparable to other units of the division.

(U) The wing reenlistment rate for the period was 68%. Total number of eligibles amounted to 110 of which 55 were first term airmen.

(U) A total of 31 officers were selected for promotion to the grade of Major, however, only 9 will assume the rank as of 1 January 1961.

(U) During the quarter a monthly average of 381 airmen were on OJT within the wing. Of these a total of 103 airmen were upgraded as follows: 25 to the "3" level, 55 to the "5" level, and 23 to the "7" level. Sixteen airmen were withdrawn from OJT. With a maximum of 75 points, the ADC OJT achievement award results are as follows: Oct - 70, Nov - 57, Dec - 70, fourth quarter average - 70.

(U) 1 October 1960, Lt Colonel Vincent J Graves, 4899A was assigned duty as director of operations. 2

(U) Colonel Robert J Loughry, 8229A, deputy commander, assumed command of the wing, 17 October 1960 upon reassignment of Colonel Charles F Knierim, 3378A. 3

(U) Captain David W Hess, 28596A was assigned duty as chief, manpower and organization on 16 December 1960. 4

Comptroller:

(U) At the close of the second quarter of FY 1961, O&M funds were committed and obligated in the amount of \$333,641.15 and \$331,290.75 respectively.

Manpower and Organization:

(U) Principle manpower authorization change requests submitted are:

a. A wing tactical evaluation crew.

2. See GO 7, 1 Oct 60.

3. See GO 8, 17 Oct 60.

4. See GO 9, 16 Dec 60.

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b. Consolidation of the wing personnel positions into the consolidated personnel activity.

c. The requirements unit manning document for reorganization of the wing.

(U) Principle manpower authorization change accomplished was a transfer to AMC from ADC of 80 military spaces to support the field maintenance activity presently being performed by SMAMA for this wing.

(U) During the quarter a total of 20 management improvement suggestions were evaluated: four were approved for awards, two were returned for further evaluation to the staff, and 14 were rejected. A total of \$45.00 in cash was awarded by this headquarters, with a possibility of further award from higher headquarters. Two \$25.00 awards were received during this period from Air Defense Command for suggestions submitted prior to this quarter.

Community Relations and Public Information:

(U) Discoverer Activities: During the quarter, over 50% of our information effort was expended to obtain national, regional and local recognition of the 552d AEW&C Wing's participation in project Discoverer. Local coverage in daily and weekly newspapers, and both radio and television, has been extensive, however, public recognition outside of the greater Sacramento area is generally lacking. The basic problem is that Air Force Ballistic Missile Division runs the program and is the major source of news. They have provided some cooperation by making suggested changes in their pre-launch press kit and in arranging some news coverage, however, they naturally concentrate on their own units. BMD's control, plus the primary news interest in the men who actually make the recovery, results in a very little national coverage for this wing. We are now concentrating on arranging for first-person feature stories by various news media. During Discoverer XVIII, Mr. Cornelius J Ryan of Reader's Digest accompanied our crews to Hickam AFB. He and Mr. Birch Storm of the Honolulu-Advertiser flew the actual recovery mission aboard an RC-121D. The Reader's Digest story is due in the March issue. Other news agencies have been contacted and arrangements made for them to accompany future deployments.

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(U) A total of seven static displays of the RC-121 were conducted during the quarter.

(U) Five public speeches were made by wing personnel during this period. Four of the speeches were made in Sacramento area public schools on the subject of Air Defense. The fifth speech was made in a local Methodist church and tied in the Air Defense contribution to peace on Thanksgiving.

(U) A NORAD all service static display and "plane dedication" was held in Pasadena on 5 and 6 October. This display, DOD approved, was sponsored by the Los Angeles Air Defense Sector and held to promote interest in aviation and an Air Defense emphasis in the Pasadena School curriculum. A 552d Wing RC-121D aircraft was painted "Spirit of Pasadena City Schools" by the Lockheed Aircraft Company.

Safety:

(U) Ground Accident Experience: Ground accident summaries reflect a definite downward (improvement) trend in all categories with exception of the government vehicle accident rate that rose slightly and the number of government vehicle accidents that remained the same. Comparison of the various categories is as follows:

	<u>3d Quarter</u>	<u>4th Quarter</u>	<u>Change</u>
Mil Injury Rate	4.87	2.26	-2.61
No. military Injury	11	5	-6
No. military Injury On Duty	2	1	-1
No. military Injury Off Duty	9	4	-5
Days Lost	316	29	-287
No. Disabling Injuries	81	74	-7
Ground Accident Cost	\$10,233	\$1,471	-\$8,762
No. POV Accidents	5	2	-3
No. Injuries in POV Accidents	7	2	-5
POV Accident Rate	2.21	.90	-1.31
Govt Vehicle Accident Rate	2.06	2.25	+.19
No. of Govt Vehicle Accidents	1	1	0

Total ground accident cost for 1960 is \$146,144.

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(U) Continuation of publicity of the ADC "Life Saver 1960" accident prevention campaign included a drive to encourage wing personnel to install safety type seat belts in their privately owned vehicles. Sgt Hoadley instituted the program, making arrangements with a local manufacturing firm, Tulareloft, of Tulare, California to supply the seat belts at cost. Sale of belts is handled as a work-a-day function of the safety office. During the period 26 October, the date the program was started, and 31 December 1960, wing personnel had purchased 58 seat belts. Some units have utilized the seat belts as prizes for their Airman of the Month.

(U) Flight Accident Experience: In addition to performing its primary mission of providing round-the-clock early warning and control coverage of the west coast, the wing was called on frequently to provide aircraft, flight crews and maintenance personnel in support of project Discoverer. Although added hardships and accident exposure were entailed in basing such aircraft and personnel at an overseas station, the unit continued its primary mission without reduction in effectiveness and without accident or reportable incident for the quarter; thus completing the year 1960 with a zero accident/incident rate.

(U) Conclusion of the year 1959 with a 2.98 accident rate and 67,185 flying hours was so surpassed by the zero rate and 67,355 hours for 1960, that request was made through 28th AD (SAGE) for 552d Wing nomination for award of the USAF Flying Safety Plaque.

(U) Flight safety was somewhat compromised during the award period by (1) considerable reduction in availability of assigned aircraft due to a radar modification program, (2) zero ceilings and visibilities encountered at McClellan during December, which required the diversion of many RC-121D aircraft to recovery bases, and, (3) heavy training demands to qualify many relatively inexperienced pilots as aircraft commanders to replace losses of experienced personnel in this category.

Administrative:

(U) A command-wide general inspection was conducted during the period 7 through 18 November by the Inspector General, 28th Air Division. A general evaluation revealed no major discrepant areas affecting mission accomplishment.

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Awards & Decorations:

(U) 1st Lt Fredrick J Kline, AO3064384, 963d AEW&C Squadron was awarded the USAF Excellence-in-Competition Pistol-Shot Badge for superior shooting skill displayed during major 1960 competitions. 5

Classification and Regrading Action:

(U) This document is classified Secret as its contents reveal the effectiveness and capability of this command. Regrading action cannot be determined at this time.

5. See Atch #5 for DAF, SO A-1717, 8 Sep 60.

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72002-12

30 December 1960

Trip Report

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1. Place Visited: Los Angeles Air Procurement District
1806 South Maple Avenue
Los Angeles, California
19 December 1960
2. Purpose: Assist IASPD to perform Facilities Capability Survey on a prospective aircraft working contractor;

Facilities Maintenance Corporation
2516 Hyperion Street
Los Angeles, California

3. Summary:

a. Contacted IASPD, met Mr. Ted Lirving, Production Specialist, who was to conduct this survey.

b. In company of Mr. Lirving, visited the Facilities Maintenance Corporation and met with the following corporate officers:

Mr. Brown, President
Mr. E. E. Roberts
Mr. Lawrence Bird
Mr. Williams

4. Findings:

a. The Facilities Maintenance Corporation is a small organization currently performing janitorial services and building maintenance on several government installations.

b. The company has not as yet been granted a security clearance.

c. The only facility available for inspection was a two story office building with garage type storage space, of moderate dimension, and the usual standard office furniture.

d. No mechanical equipment was present or available for review. From conversation, I gathered that none was directly owned by the Facilities Maintenance Corporation. Mr. E. E. Roberts, however, is

520AS-613-5001

President of Sonora Flying Service, Incorporated, which operates a considerable number of World War II surplus aircraft as a contract forest fire fighting service. This organization currently operates a surplus aircraft maintenance activity at the old Hanna AFB, Arizona. In their planning Facilities Maintenance Corporation, planned to utilize some equipment owned and used by Sonora Flying Service and to lease the balance from major equipment suppliers. However, questioning indicated that there is no financial inter-connection between Facilities Maintenance Corporation and Sonora Flying Service, Incorporated. Facilities Maintenance Corporation could not produce any tangible evidence of preliminary negotiations toward actual accomplishment of proposed equipment leases. A handily typed proposed list of equipment was investigated, both in type and quantities of equipment required.

4. The Facilities Maintenance Corporation has never undertaken an operation of this nature.

5. Mr. Lawrence Bird was interviewed at length. He is the proposed local area manager for Facilities Maintenance Corporation. He has an extensive background in civil, military and military contract aircraft maintenance.

6. The corporation planned to import additional labor from the Phoenix-Thoussix, Arizona area if awarded the contract. Some thought had been given to hiring local labor. However definite plans in this area had not been formulated and were being held in abeyance pending notice of award and a definite obligation.

5. Summary:

a. It is my opinion that although Facilities Maintenance Corporation has the potential to deliver the services required, this potential has not yet been developed to a sufficient degree to deliver satisfactory performance. It is extremely doubtful if it could be developed in time to meet contractual requirements.

b. From a management standpoint, Mr. Bird is well qualified, technically, to manage an operation of this nature.

c. Company planning for equipment is inadequate and indefinite. The equipment required to meet the obligation is not definitely available or in possession of the contracting corporation.

d. The mission requirement of the 55th Wing requires immediate and full implementation of contractual services at peak efficiency. The Facilities Maintenance Corporation has not as yet secured equipment, employed a trained staff of personnel or developed skill through performance of an operation of similar nature. The corporation is depending on past experience of management to develop these skills after award of contract. The time required for this development would

Regarding the operational adjustments of the 1944 Army War, it
was recommended to Mr. Lingle (LAW) that the National
Maintenance Corporation not be considered as a qualified contractor
at this time.

FRANK C. GARDNER
Major, USAF
Medical Control Office

HEADQUARTERS
552ND AIRBORNE EARLY WARNING & CONTROL WING (ADC)
United States Air Force
McClellan Air Force Base, California

GENERAL ORDERS)
NUMBER 7)

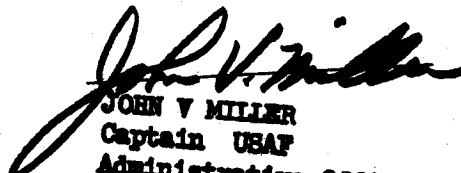
1 October 1960

STAFF ASSIGNMENT.—LIEUTENANT COLONEL VINCENT J GRAVES, 4899A,
this Headquarters, ADC, this station is assigned as Director of Operations,
effective this date.

FOR THE COMMANDER:

DISTRIBUTION:

8 28CNO
5 52FDC
5 52MDC
5 52ODC
5 52AAC
5 52CSA
5 52CNO
5 52OTT
1 52CCR
5 Each Squadron


JOHN V MILLER
Captain USAF
Administrative Officer

52CAS-615-5001

HEADQUARTERS
552ND AIRBORNE EARLY WARNING & CONTROL WING (ADC)
United States Air Force
McClellan Air Force Base, California

GENERAL ORDERS)
NUMBER 8)

17 October 1960

ASSUMPTION OF COMMAND.—Under the provisions of Air Force Regulation 35-54, the undersigned hereby assumes command of the 552nd Airborne Early Warning & Control Wing, effective this date, vice COLONEL CHARLES F KNIERIM, 3378A.

DISTRIBUTION:
8 28CMD
5 52PDC
5 52MDC
5 52ODC
5 52AAC
5 52CSA
5 52CMD
5 52OTT
5 Each Squadron
1 52CCR

Robert J. Loughery
ROBERT J. LOUGHERY
Colonel USAF
Commander

52 CAS-615-5001


HEADQUARTERS
552ND AIRBORNE EARLY WARNING & CONTROL WING (ADC)
United States Air Force
McClellan Air Force Base, California

GENERAL ORDERS)
NUMBER 9)

15 December 1960

STAFF ASSIGNMENT.—CAPTAIN DAVID W HESS, 28596A, this Headquarters, ADC, this station is assigned as Chief, Manpower and Organization Division, effective this date.

FOR THE COMMANDER:


JOHN V MILLER
Captain USAF
Administrative Officer

DISTRIBUTION:

8 28CNO
5 52PDC
5 52MDC
5 52ODC
5 52AAC
5 52CBA
5 52CNO
5 52OTT
1 52CCR
5 Ea Squadron

~~52CAS-500~~
52CAS-615-5001
1.2.

DEPARTMENT OF THE AIR FORCE
WASHINGTON

SPECIAL ORDERS)
NUMBER A-1717)

8 September 1960

By direction of the SAF, the USAF Excellence-in-Competition Pistol Shot Badge is awarded to the following for superior shooting skill displayed during the major 1960 competitions:

Grade, Name, AFSN	Assignment	Match	Type Badge
MSGT FRED O BROWN, AF19296506	AFROTC, AU, Maxwell AFB, Ala with duty station Det 25 (Ariz State Univ), Tempe, Ariz	TAC	Bronze
MSGT JACK E SWIDER, Jr, AF19348801	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	Army Area All AF	Gold Gold Gold
SSGT EDWIN L TEAGUE, AF14427924	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	Army Area	Gold Certificate
SSGT ALVIN R MERX, AF16401985	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ArmyArea All AF	Silver Certificate Gold
MSGT ARTHUR L STONE, AF19369087	4614 Consol Acft Maint Sq, ADC, Ent AFB, Colo Springs, Colo	ADC	Gold
A1C SCOTT WROTEN, AF18475677	4756 Air Police Sq, ADC, Tyndall AFB, Fla	ADC	Silver
SSGT JACK D TAYLOR, AF19626647	325 Sup Sq, ADC, McChord AFB, Wash	ADC	Silver
COL KERMIT R DYKE, 2027A	Hq North American Air Def Comd, Ent AFB, Colo Springs, Colo	ADC	Silver Certificate
MSGT JAMES L KISH, AF20826166	Hq 28 Air Div (Semi-Automatic Ground Environment), ADC, Hamilton AFB, Calif	ADC	Bronze
2NDLT REX E DOUGLASS, AO3095075	666 ACW Sq, ADC, Mill Valley AF Stn, Mill Valley, Calif	ADC All AF	Bronze Silver
MAJ ROBERT M PARKER, AO453108	772 Radar Sq (Semi-Automatic Ground Environment), ADC, Claysburg AF Stn, Pa	ADC	Bronze
A2C RICHARD L LIBBY, AF19575838	Hq Kansas City ADS, ADC, Richards-Gebaur AFB, Mo	ADC All AF	Bronze Silver
A2C JAMES R SMITH, AF16397893	1400 Air Police Sq, MATS, APO 81, New York, NY	MATS	Gold
MSGT CHARLES E REED, AF19354851	Hq 9 Wea Gp, Det 1, MATS, Scott AFB, Ill	MATS	Silver
MSGT GLENN E WATSON, AF13632157	539 Ftr-Interceptor Sq, ADC, McGuire AFB, NJ	MATS	Bronze
MSGT RAYMOND B REAL, AF17290233	1405 AB Sq, MATS, Scott AFB, Ill	MATS All AF	Bronze Gold

A-1717
LTCAS-616-5001

SO A-1717, DAF, 8 Sep 60, cont:

Grade, Name, AFSN	Assignment	Match	Type Badge
TSGT EARL T KEITH, AF14317025	Hq 3750 AB Gp, ATC, Sheppard AFB, Tex	ATC	Gold
MAJ FRIED R RACKOW, AG2067193	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC	Silver
TSGT ROBERT M WYATT, AF38577248	3554 Armament and Elct Maint Sq, ATC, Perrin AFB, Tex	ATC	Silver
SSGT WALTER O WEIBLE, AF25433243	3575 USAF Hosp, ATC, Vance AFB, Okla	ATC	Bronze
SSGT JESSIE F KITCHENS, AF18363780	Hq 3500 AB Gp, ATC, Reese AFB, Tex	ATC	Bronze
ALC FRED MAYS, AF24777527	3551 Air Police Sq, ATC, Moody AFB, Ga	ATC	Bronze
SSGT THOMAS M HARDGRAVE, AF25883599	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC	Silver Certificate
SSGT ROBERT W DAY, AF15410361	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC	Silver
ALC HAROLD R BARRETT, AF17774436	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC ALL AF	Bronze Bronze Certificate
MSGT WILLIAM W HAWKINS, AF17160913	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC	Bronze
SSGT EDWIN D WHEELER, AF14480366	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC	Bronze
LTCOL FREDRICK E HOWARD, 34911A	USAF Marksmanship Sch, ATC, Lackland AFB, Tex	ATC	Bronze
1STLT FREDRICK J KLINE, AG3064384	963 AEW Con Sq, ADC, McClellan AFB, Calif	AMC	Gold
SSGT JACKIE R MORRIS, AF17246338	Hq 14 AF, COMAC, Robins AFB, Ga	AMC ALL AF	Silver Silver Certificate
MSGT MILTON R BOWCROFT, AF32345891	Hq 14 AF, COMAC, Robins AFB, Ga	AMC	Bronze
ALC JAY B COPELAND, AF19517519	Hq 3130 AB Gp, AMC, APO 10, New York, NY	AMC ALL AF	Bronze Bronze Certificate

BY ORDER OF THE SECRETARY OF THE AIR FORCE:



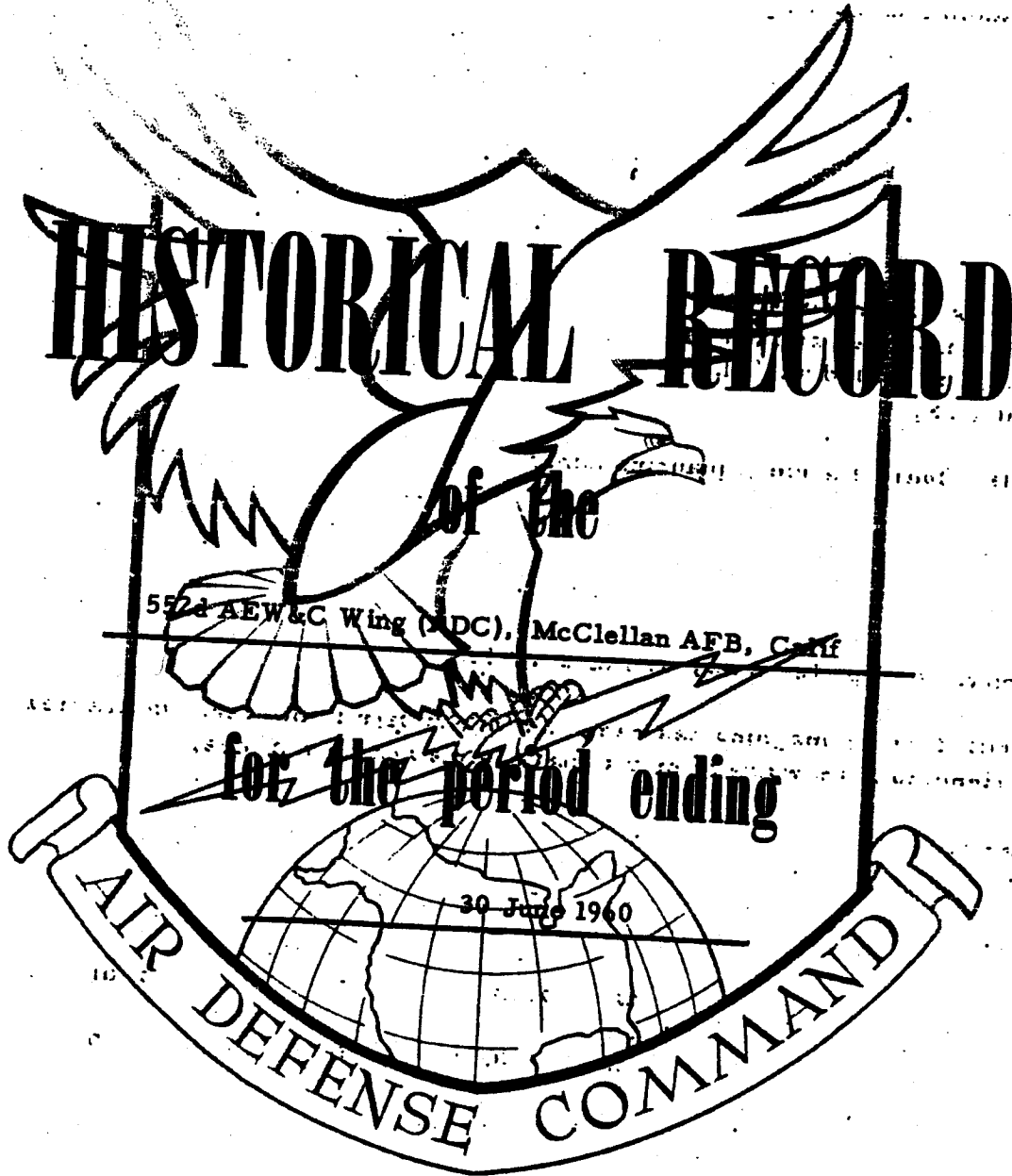
J. L. FARR
Colonel, USAF
Director of Administrative Services

THOMAS D. WHITE
Chief of Staff

DISTRIBUTION
5 Each individual
1 Each organization
32 Master Personnel Records
43 Hq USAF

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RCS: AU-D5



ADC FORM 102

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5-1643-3

Section I.

REQUIRED DATA

1. UNIT AND LOCATION

552d AEW&C Wing (ADC)
McClellan AFB, California

2. NAME AND GRADE OF COMMANDER

CHARLES F KNIERIM
Colonel, USAF

3. CHAIN OF COMMAND (Superior Echelons)

Western Air Defense Force (ADC)
Air Defense Command
United States Air Force

4. SUBORDINATE UNITS (Down to and including squadrons)

963d AEW&C Squadron (ADC)
964th AEW&C Squadron (ADC)
965th AEW&C Squadron (ADC)
552d Electronics Maintenance Squadron (ADC)
552d Periodic Maintenance Squadron (ADC)
552d Field Maintenance Squadron (ADC)

5. MISSION (Give authority and brief statement of primary mission)

Authority: WADF Reg-24-2, 28 Aug 59. To provide airborne early warning and control in the Air Defense combat zone. To support the operation of other commands as directed by higher headquarters. To participate in the USAF collateral mission and anti-submarine warfare as directed. To augment Air Weather Service and to administer, equip, train and prepare for combat in accordance with directives and policies of higher headquarters.

6. PERSONNEL

	OFFICERS	AIRMEN	CIVILIANS	TOTAL
ASSIGNED	436	2043	10	2491
ATTACHED	0	0	0	0

7. EQUIPMENT (Give official nomenclature and quantity of mission-type equipment)

TC-121C-3
TC-121D-35
U3A-1

SECRET

~~SECRET~~Administration:

(U) Effective 21 April 1960 the manpower and organization office was removed from the directorate of operations and designated as a special staff section. Major James R Youngs, Jr., 13159A, was assigned as chief of manpower and organization. ¹

Operations:

(S) During the second quarter calendar year 1960 we flew a total of 16,916:20 hours of 16,992:10 hours programmed. Of the total, 8737:10 hours on-station time was programmed and 8684:46 hours were flown giving an effectiveness rating of 99.6% for the quarter. This increase of .3 of a percentage point over the effectiveness for the first quarter of 1960 raises the wing average effectiveness to the highest level for one quarter in the history of the wing.

(U) The wing participated in seven exercises during the quarter. Favorable comments were received from WADF concerning our participation. A major NORAD-wide exercise (Desk Top III) took place on 8 June 1960. All wing activities were exercised (actively or simulated) with satisfactory results. Problem areas brought to light by the exercise were resolved subsequent to its termination. Since Desk Top III was an STM synthetic exercise, little actual flying was involved. However, the wing was directed to physically man station 1 to provide realistic AEW script coverage.

(U) We began participating in Project Weather Watch II on 12 May 1960. This project was concerned with collecting photographs of weather conditions for analysis in conjunction with data collected by United States Satellite Tiros I. The project was concluded when the satellite ceased transmitting data.

(U) The dualex system has continued to be used as a primary means of communications on stations 3, 5 and 7. The operation is steadily improving. A cross-training program between the personnel of this wing and the 666th ACWRON currently is contributing greatly to improvement of this program. The main problem areas are maintenance of the equipment and unreliable wiring in the aircraft allowing too much voltage drop between the radio operator's auxiliary junction box panel and the dualex equipment.

(U) The wing intelligence section received one reserve officer (captain) and one airman (A1C) for an annual fifteen day active duty tour. This unprecedented acceptance of reserve personnel for training was done as an accommodation to the normal training activity (WADF), then in the process of deactivation. By prior agreement with WADF, one reserve officer is receiving one day active duty training per month in the intelligence section.

¹. See Atch #1 for Hq 552d AEW&C Wg General Order 2, 21 Apr 60.

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(S) During this quarter two deployments to Hickam AFB were made in support of Project Discoverer. The first deployment was made during the period 13 through 17 April to attempt recovery of the Discoverer XI capsule. Launch of Discoverer XI was successful; however, re-entry of the recoverable capsule failed to occur in the planned impact area. The second deployment was made during the period 21 through 30 June. During this deployment a practice recovery operation was conducted with very successful results. Two capsules were air-dropped and both were air-recovered. The actual recovery of the Discoverer XII capsule, scheduled to occur during this deployment was not attempted due to failure of Discoverer to establish a successful orbit.

Personnel:

(U) Our reenlistment rate for this quarter was 51%. Total number of eligibles amounted to 57, of which 16 were career airmen.

(U) An aggressive on-the-job training program continued through the quarter with a total of 395 airmen on OJT. During the period 101 airmen completed OJT and were upgraded as follows: to the 3 level - 10, to the 5 level - 63, and to the 7 level - 28.

(U) Overall airman manning continues to remain at near authorized strength. However, shortages exist in the following career fields: 421X1 - propeller repair; 421X3 - ground power; 702X0 - administrative clerk.

(U) During the period three officers were released from active duty and one officer retired. Sixteen officers received promotions in June as follows: 1 to colonel, 3 to Lt colonel and 12 to major.

(U) Officer manning has remained pretty firm; however, we are now experiencing a shortage of pilots, navigators and controllers.

Materiel:

(U) During the period 1 April through 30 June 1960, several changes occurred within the organization of the director of materiel. The Director of Materiel, Colonel Oscar H Geismer, was reassigned to Chateauroux, France, departing this area on 27 June. At the close of this period his replacement although assigned, had not yet arrived. Captain Don A Tippin, Chief of Electronic Maintenance, was reassigned to Hq ADC and replaced by Major Robert E Warren. 1st Lt James R Burgener, who had been OIC of the civil engineering section for approximately one and one-half years, turned full responsibility for this section over to 1st Lt Seth B Hodges on 24 April 1960.

(If additional space is required, continue on blank sheets, size 8x10, appropriately numbered, and attached securely hereto)

TYPED NAME AND GRADE OF COMMANDER

CHARLES F KNIERIM, Colonel, USAF

SIGNATURE

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Charles F. Knierim

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

Civil Engineering:

(U) Military Construction Program: The following projects were approved by Hq ADC to be included in the McClellan AFB Fiscal Year 1962 MCP: fleet service (\$84,000), warehouse, supply equipment, base (\$58,000), and Hq, squadron (\$263,000). The necessary supporting documents were prepared by Hq WADF and this headquarters and coordinated with McClellan AFB master planning section in reviewing each project before it was presented at Hq AMC on 2 June 1960.

(U) P-459 Program: The modification of building S-1016 was completed in June 1960. This was the only P-459 project for Fiscal Year 1960.

Hq ADC programmed the obligation of the traveling crane to be installed in building 1071 for the second quarter of FY 61. This was the only P-459 project scheduled for Fiscal Year 1961.

(U) P-458 Program: The O&M minor construction program for the 552d Wing was completely obligated after the rewiring contract was awarded for building 1046. The following additional projects were obligated during the fourth quarter FY 60: air conditioning for maintenance control - control room, building S-1017 (\$695); air conditioning and partitions for survival equipment, building 1040 (\$5,975); and electric hoists for the propeller shop, building 1071 (\$4,914).

The total budget authorization to the civil engineering section for Fiscal Year 1960 was \$41,900 and obligated funds on 30 June 1960 totaled \$41,250.

Maintenance:

(U) Engine Problem: The engine failure rate declined greatly during this period due to the installation of new pistons on all engines being received from overhaul. At the close of this period, there were 121 new piston engines installed on possessed RC-121 and TC-121 aircraft. The main cause of engine failure now is the impeller drive area. Project action was initiated by MAAMA to require the installation of bronze impeller drive pinion bushings to alleviate this type failure.

(U) Inspections: The following one-time inspections of all RC-121 aircraft assigned the 552d Wing were accomplished by quality control:

Page 3 of 14 Pages

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

(1) Aileron boost and aileron hinge bolts for frozen and corroded bolts and for any other defects, (2) Aileron torque tube assembly and aileron center connecting flange for loose and missing screws, (3) Landing gear lower drag shock strut assembly to preclude fatigue of main landing gear lower drag shock struts, and (4) A Wing Letter was published, as followup action, for proper lubrication of control surface hinge pins to provide lubrication at each postflight, periodic inspection and after each aircraft wash job.

(U) Training: Seven weeks of Phase II training on the contents and use of AFM 66-1 was accomplished. The purpose of this course was to indoctrinate all supervisory personnel in the procedures outlined in AFM 66-1 relative to machine listings of Exception Time Accounting (ETA) and Maintenance Data Collection (MDC).

(U) Conferences: Personnel of the various staff sections of the chief of maintenance attended a two day conference at Hq WADF during May on the familiarization of AFM 66-1 supplemented. The conference was very beneficial in clearing up many problem areas in the field and also assisted in the submission of the ADC K-25 report (Monthly Maintenance Summary).

(U) Aircraft Washing Contract: As of 30 June 1960, Albert J Jansen, on contract AF04(606)7789 satisfactorily completed \$31,608.00 of contract-ed services for the 552d Wing. Monthly amount was: April \$9,844, May \$10,962.50 and June \$10,801.50.

(U) Materiel Control Section Statistics:

Bench stock: Total fill rate - 64%

Reparable processing (April and first two weeks of May): Number of line items "on base reparable" routed - 291; line items "not reparable this station" routed - 849; line items routed to wing shops - 378; condemned items processed to salvage - 158.

Time change requirements: Number of predock meetings - 71; number of items required - 785; total number of items received - 674; percentage filled - 86%.

Total number of line items cannibalized - 41.

Technical Order Compliance: TOC kits ordered - 70; TOC kits received - 51; MEO kits ordered - 26; MEO kits received - 16.

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

Transfer of reparable processing responsibility was effected on 9 May 1960 from materiel control to AFN 2555 supply account.

(U) Unsatisfactory reports: From 1 April through 30 June 1960, PICO submitted 69 unsatisfactory reports. This number was less than the average amount submitted previously; however, with the inception of the maintenance data collection system and the 1 April 1960 revision of T.O. 00-35D-54, many UR's were no longer considered necessary.

(U) RC-121D Aircraft S/N 55-133: A review of RC-121D aircraft, 55-133, revealed the following:

On 1 July 1957 aircraft hours were 1615 hours.

On 1 July 1960 aircraft hours were 7112 hours.

During this period aircraft lost 203 days due to Mod and PARC.

The net result was: aircraft accomplished 5497 flying hours with overall average of 187.6 hours per month for a three-year period.

(U) Abort Statistics:

<u>Month</u>	<u>Total AAD Aborts</u>	<u>Radar Aborts</u>	<u>Aircraft Aborts</u>	<u>Other Aborts</u>
April	27	3	24	0
May	16	2	13	1
June	14	3	9	2

Electronic Maintenance:

(U) APS-95 Radar: The first two aircraft retrofitted with APS-95 radar were received from SMAMA facilities during this period. Although testing had not been completed by Lockheed on the prototype, it was deemed advisable to accept the first aircraft to indoctrinate personnel in familiarization and expedite resolution on known problems.

A lack of acceptance criteria on the APS-95 imposed many problems. The initial receipt of aircraft was unsatisfactory. Due to high sensitivity of overvoltage relay, aircraft alternators kicked off the line at the least indication of transmitter overload. This made it extremely difficult to trouble-shoot and consumed unnecessary time as the

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

system must go through all the time delay again before it could be fired up. The only way to overcome this was to bypass the overvoltage relay, which in turn was a hazardous condition.

Excessive RF energy was radiated in the lower baggage compartment, aircraft superstructure in the immediate vicinity of the radome, and also in the crew compartment when the upper floor access door was removed. RF energy was also visible as arcing on the face of the antenna and was considered hazardous.

Interference was encountered in all communications systems and the loran navigation system.

The SCR-718 altimeter blocked the APS-95 transmitter.

There was decay of video presentation from the APS-95 to the APS-56 consoles and inaccurate range mark presentation.

Lack of AMTI and other degradation of performance was unsuitable for proper mission performance.

An APS-95 DPG meeting was held at Lockheed Aircraft Corporation, Burbank, California, on 2 and 3 June to discuss problems and progress of the APS-95 modification.

On 3 June a representative from Hughes Aircraft reported to this area to review the antenna problem and departed again without being able to resolve the problem.

On 8 June a thorough examination of the antenna installed on aircraft 127 was made by representatives of Lockheed, Hazeltine, Hughes, ARDC, SMAMA and other interested personnel. The equipment was fired up in darkness at 2200 hours to more readily detect the defective areas of the antenna.

On 9 June the antenna on aircraft 127 was removed and shipped to Hughes Aircraft for research and analysis. A new antenna was installed on the aircraft and again fired up in darkness. The overall results showed the new antenna had the same defects. There was a marked reduction in interference due to a screen bonding between the antenna pedestal and aircraft structure that was improvised. Prior to fastening the screen to fuselage, there was extreme arcing around the area of

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

the pedestal to aircraft structure which immediately ceased when bonding was completed. Pictures were taken of the installation and attempts were made to photograph the arcing condition.

Aircraft 127 was test flown again 11 June to determine the amount of RF radiation in crew compartments and evaluation of range mark count down fix and video decay between APS-95 and APA-56 consoles. Range mark count down fix as devised locally proved successful and was initiated as MEO #49 for implementation in all APS-95 equipped aircraft. Video correlation had improved to a marked degree but final resolution had not been completed. Testing of the aircraft ceased pending arrival of Hazeltine, Lockheed and Hughes personnel for resolution of the antenna fix.

Mr. Boothroyd of Hughes Aircraft arrived on 15 June with a modification kit for the APS-95 antenna system. This kit was installed and the antenna ground checked under full transmitter power for conditions of arcing. The arcing conditions previously encountered apparently were eliminated and it was decided to check the systems in flight.

Aircraft 127 was airborne at 1800 hours, 15 June, with representatives of the 552d Wing, ARDC, Hazeltine, Lockheed and Hughes Aircraft. The APS-95 systems were checked from low altitudes up to 15,000 feet. Station track was established from Ukiah with center point 25 miles south. Although the flight was primarily to check the antenna for arcing, the following conditions were noted: (1) No arcing of RF energy could be detected visually, nor was it indicated by any other APS-95 component, (2) considerable improvement in video levels between the APS-95 and APA-56 was noted, (3) magnetron pulling still existed, and (4) loran, radio altimeter and radio interference problems still existed but no attempt was made to thoroughly investigate these items. No checks were made to determine RF energy levels within the cabin or baggage compartment areas. Readings obtained on the 11 June flight indicated no hazardous condition in either area.

Another flight test of aircraft 127 was conducted on 17 June for the purpose of checking video compatibility of the APS-95 and the APA-56 radar systems. Secondary reason for the flight was to recheck for antenna arcing and the reduction of RF energy within the crew compartment and baggage areas. Representatives of 552d Wing operations and

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

electronic maintenance, 552d EM Squadron, Hazeltine and Lockheed participated in this flight. The major portion of this flight check was conducted at 14,000 feet. Weather did not permit a higher altitude.

Lockheed supplied a fix to eliminate conditions of video decay between the APS-95 and the APA-56 consoles. This fix was basically a correction in video termination impedance at each console and an adjustment of video voltage output from the APS-95 receiver. The systems were checked satisfactory on the flight of 17 June.

The flight of 17 June revealed: (1) Video decay appeared to have been eliminated; however, a complete operational mission check was needed, (2) No antenna arcing was observed on any part of the antenna system, (3) Spurious RF energy within the cabin and baggage areas had been reduced and no arc could be drawn from any portion of the airframe, (4) Loran interference was determined to be caused by RF energy reflected from #3 prop blades. Feathering #3 prop completely eliminated loran interference, and (5) magnetron pulling precluded effective lock-in of AMTI, though AMTI was partially effective this flight.

Coordination was effected with 552d Wing operations to conduct a series of flight checks on the APS-95 using all normal systems under normal operating conditions. Arrangements were also made to have sanitation and hygiene personnel make a complete study of personnel hazards within the aircraft.

Mr. Griffin, APS-95 receiver design engineer of Lincoln Laboratories arrived on 21 June to assist in the resolution of problems with the APS-95 and APS-56 systems. A special flight was arranged for 22 June to flight check all normal operating systems and to give Mr. Griffin an opportunity to view the APS-95 in operation.

The special flight (55-0127) on 22 June departed McClellan at 1000 hours to specifically check the following items and to resolve the question of mission suitability of the APS-95 equipped aircraft: (1) Recheck for antenna arcing, (2) video levels at receiver output, (3) video levels at APA-56 consoles, (4) AMTI functioning and degree of magnetron frequency pulling, (5) tracking consistency using coordinated track info from station 7, and (6) interference with loran, UHF, HF and navigation radio equipment.

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

Observations made from this flight were: (1) Antenna arcing could not be considered a problem at this time, (2) receiver output voltages were within design specifications and input to the APA-56 system was satisfactory, (3) video levels at the APA-56 consoles and video presentation were acceptable. The fix supplied by Lockheed basically consisting of an increase of receiver grass level voltage and video termination resistance changes at the consoles, had made the two systems a compatible unit, (4) AMTI operation, though effective on this particular flight, was still unsatisfactory and required corrective maintenance or possibly design changes. Reasons for improper functioning of AMTI was not clearly resolved at this time. It was noted, however, that sea clutter was not as predominate as with the APS-20. Tracking of targets through the clutter was possible by an experienced operator. FTC and STC functions also greatly reduce the effects of clutter and permit consistent tracking. Frequency pulling of the magnetron was believed to be caused by APS-95 aircraft environment and required detailed engineering study for corrective action. (5) Tracking consistency appeared to be good; however, detailed calibration flights were proposed as soon as possible. (6) Loran interference was present but not a problem. Several experienced navigators reported no difficulty in taking accurate fixes over extended periods of operation. UHF, HF and radio nav equipment had no appreciable interference and could not be considered a problem area.

A special test flight on aircraft 546 was conducted on 23 June, specifically to check the following items: (1) antenna arcing, (2) RF energy levels in cabin and baggage areas in free flight configuration, (3) general functional check in comparison to aircraft 127, and (4) comparison checks of HF energy levels in baggage and crew compartments between 127 and 546. Personnel from base sanitation and hygiene made the comparative examination. No RF shielding was used around the antenna mount on 546.

The special flight on 546 proved comparable results with that previously obtained on 127. RF readings were taken throughout the aircraft and no RF personnel hazards were present in either aircraft when systems were operated in a normal manner. A note of caution, however, was that no person should expose himself to RF radiation

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

in the area of the lower baggage compartment antenna hatch, with the latch removed, and the APS-95 transmitter in full operation. With the latch removed, the RF energy level directly above and around the door approached the maximum permissible level. It was also concluded that the RF screen shield around the antenna mount was an unnecessary modification; however, subsequent tests were to be made on other modified aircraft to verify this conclusion.

The tests conducted with 127 and 546 indicated an acceptable mission ready status and both aircraft were released for line operation on 23 June. Data provided by the tests caused release of the temporary freeze on the APS-95 program by ARDC and ADC. Production retrofit resumed on 25 June per ADC message ADLPG-EV 1846.

(U) AN/APS-T4 Trainer: During this period it was necessary to initiate aggressive action to resolve problems in connection with the Landair antenna simulator programmed and contracted for the AN/APS-T4 trainer. A conference was held at this headquarters with Ogden AMA (Prime AMA), Landair (contractor) and personnel from this headquarters. This program was at a standstill for a period of a year. Landair was committed to produce results or show cause for default of contract. A deadline date of 18 July 1960 was established to commence acceptance testing of the system or default and forfeiture of contract. At the time of this report, progress had improved and we have been reasonably assured of an operative device.

The air conditioning unit installed in the trainer had long been a problem in the area of maintenance support. Local contractual maintenance was attempted unsuccessfully due to supply support problems. Negotiations were finally made with SMAMA to provide the maintenance inspection and support, but supply support remained a problem. This was discussed with Ogden AMA and a study was being prepared with a possibility of modifying the present installation. During the interim period, an unserviceable compressor had been overhauled and repaired by local contract to be used as a support spare.

Supply:

(U) Project Count: The reporting of Project Count was completed, in three cycles of reports, and totaling 11,775 line items. The final

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

report was submitted to the SMAMA Project Count monitor on 23 May 1960. As a result of this project, this activity received shipping orders from prime depots for disposition of items reported in excess. At the close of this period, 1,060 shipping orders had been received, 323 items shipped, 239 returned to the originating depot without action as no material available, and 498 shipping orders were still to be processed.

(U) Materiel Control Operation: Materiel control began operation of a maintenance ordering section, relieving AFN 2555 of the responsibility for research of requested material. All maintenance requirements were now processed through materiel control before ordering or being issued by AFN 2555 supply account.

(U) Rewarehouse Project: Complete rewarehousing of the AFN 2555 stocks began during this period, and as of the end of the period was approximately 40 percent complete.

(U) Active Stock Record Cards: As of the close of this period, the following active stock record cards were being maintained: Category I - 237; Category II - 3,123; Category III - 9,234; total - 12,594.

Comptroller:

(U) As of 30 June 1960 O&M funds were committed and obligated in the amount of \$718,196.80. This is 99.99% of the commitment ceiling and 99.99% of the obligation ceiling.

Organization and Manpower:

(U) A detailed manning document was submitted on 30 April 1960 at the direction of an ADC staff visit team investigating the maintenance process of the wing. This document was prepared in a manner to provide the information required to produce requirements unit manning documents for the wing and assigned squadrons. The document indicated the requirements, aircraft and manpower, for this organization to perform its mission under conditions ranging from four to eight thousand hours per month programmed flying hours and maintenance of from three

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

to one third stations through five stations at variable locations. Also as a result of this visit some 80 manpower spaces were identified to be transferred to SMAMA for support of the wing maintenance function in the event USAF directs that the required spaces be taken from ADC resources.

(U) Requests for manpower changes were submitted during the period in an effort to reorganize the maintenance functions of the wing and correct deficiencies in the present document for wing headquarters and all squadrons. These documents were returned without action due to a deficiency in available spaces in ADC.

(U) Air Defense Command has directed that all personnel functions be centralized and performed at base level. We have requested a waiver of this requirement and additional manpower spaces to perform the current workload. In answer to this request a general refusal was received by WADF from ADC. At the request of WADF a reclama action was submitted. The grounds for this request were the shortage of available space, the distance between billets and operating area and the general overcrowded conditions at McClellan AFB.

(U) A total of 49 military management improvement suggestions were received and processed during this period. Of this total 25 were approved and a total of 12 received cash awards at this level.

Community Relations and Public Information:

(U) A weekly 25 minute Air Force news and recorded music program, "Takeoff with Music," was aired each Sunday at 2005 hours on radio station KGMS. A weekly five minute "beeper" telephone newscast, dealing exclusively with the 552d Wing, was aired on radio station KXOA. A five minute show which began in February with radio station KROY was discontinued in April because of a major change in managerial personnel which dictated numerous program changes.

(U) Major Lloyd G Perry, Headquarters Squadron Commander, appeared on channel 6, KVIE television, on 4 May, 11 May and 18 May

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

as a part of a student panel to discuss "Russian Foreign Policy." His appearance was cleared by the base information officer. A 30 minute television program was prepared for channel 6 for airing in early July. It involved a 15 minute interview with Major Pelham Burnett of the wing on our place in the NORAD family and a 15 minute film, "Aerial Firepower," June's commanders call companion film.

(U) On 10 May, Mr. John Strobel and Mr. Art Rekedal, news editors of radio station KGMS and newscaster/disc jockey of KXOA, respectively, accompanied a 964th aircrew on an AAD mission. Taped interviews with aircrew members were prepared and were aired on their respective stations. Mr. Strobel's program was aired on KRLA radio, Los Angeles, on "Scope Unlimited."

(U) A story dealing with the wing mission, written by Bill Holden of the Lodi News Sentinel was published in the issue of 16 June 1960. Including a front page eye-catcher picture, the story ran 116 column inches, or nearly three quarters of a page. This was a feature presentation and resulted from a flight made in May by Mr. Holden and his photographer, Paul Zimmerman.

(U) During the quarter a total of 13 static displays of RC-121 aircraft were conducted at McClellan AFB and other bases in California for school and civic organizations.

Safety:

(U) Ground accident summaries reflect a downward trend in all accident categories in comparison with last quarter. The military disabling injury rate was 5.68 as compared to 6.13 for the first quarter. There were two fatalities, a total of four for 1960. Ground accident costs for the period were \$68,161.00 for a total of \$134,440.00 for 1960. Wing civilian personnel have accumulated 92,612 manhours without a reportable accident.

(U) Five of our squadrons (963, 964, and 965 AEW&C Squadrons, 552d PM Squadron and headquarters squadron) received "Awards of Merit" from the base commander for achieving a yearly ground accident rate lower than that of USAF.

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd---

(U) In addition to continuing to provide an unchanged airborne early warning and control coverage of the west coast, the wing periodically supplied aircraft in support of "Project Discoverer" during the second quarter. In spite of the added accident exposure entailed in basing these aircraft, crews and maintenance personnel at an overseas station, the unit continued to provide effective coverage of both missions without accident or reportable incident.

(U) Records indicate that as of 30 June 1960, the wing's 1960 aircraft accident rate is zero with an accomplished 33,700 flying hours. This reflects a definite improvement over the rate of 3.4 for the first half of 1959, and the 2.98 rate for the period 1 July through 31 December 1959.

(U) Information has been received that, as of this quarter, the 964th and 965th AEW&C Squadrons became eligible for receipt of the ADC, "Award for Meritorious Achievement." This award is presented to units operating aircraft for a continuous one year period without accident. The 963d AEW&C Squadron will become eligible on 17 July 1960.

Classification and Regrading Action:

(U) This document is classified ~~SECRET~~ as its contents reveal the effectiveness of this command and the results of a classified project. Regrading action on this document cannot be determined at this time.

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52CAS 009-5009

HEADQUARTERS
552ND AIRBORNE EARLY WARNING & CONTROL WING (ADC)
United States Air Force
McClellan Air Force Base, California

GENERAL ORDERS)
NUMBER 2)


21 April 1960

REDESIGNATION OF STAFF OFFICE..... I
STAFF ASSIGNMENT..... II

I. REDESIGNATION OF STAFF OFFICE.—The Manpower and Organization Office, this Headquarters, is removed from Directorate of Operations and is redesignated as a special staff section, effective this date. Authority: By direction of the Commander.

II. STAFF ASSIGNMENT.—MAJOR JAMES R YOUNGS JR, 13159A, this Headquarters, is assigned as Chief of Manpower and Organization, effective this date.

FOR THE COMMANDER:


JOHN V MILLER
Captain USAF
Administrative Officer

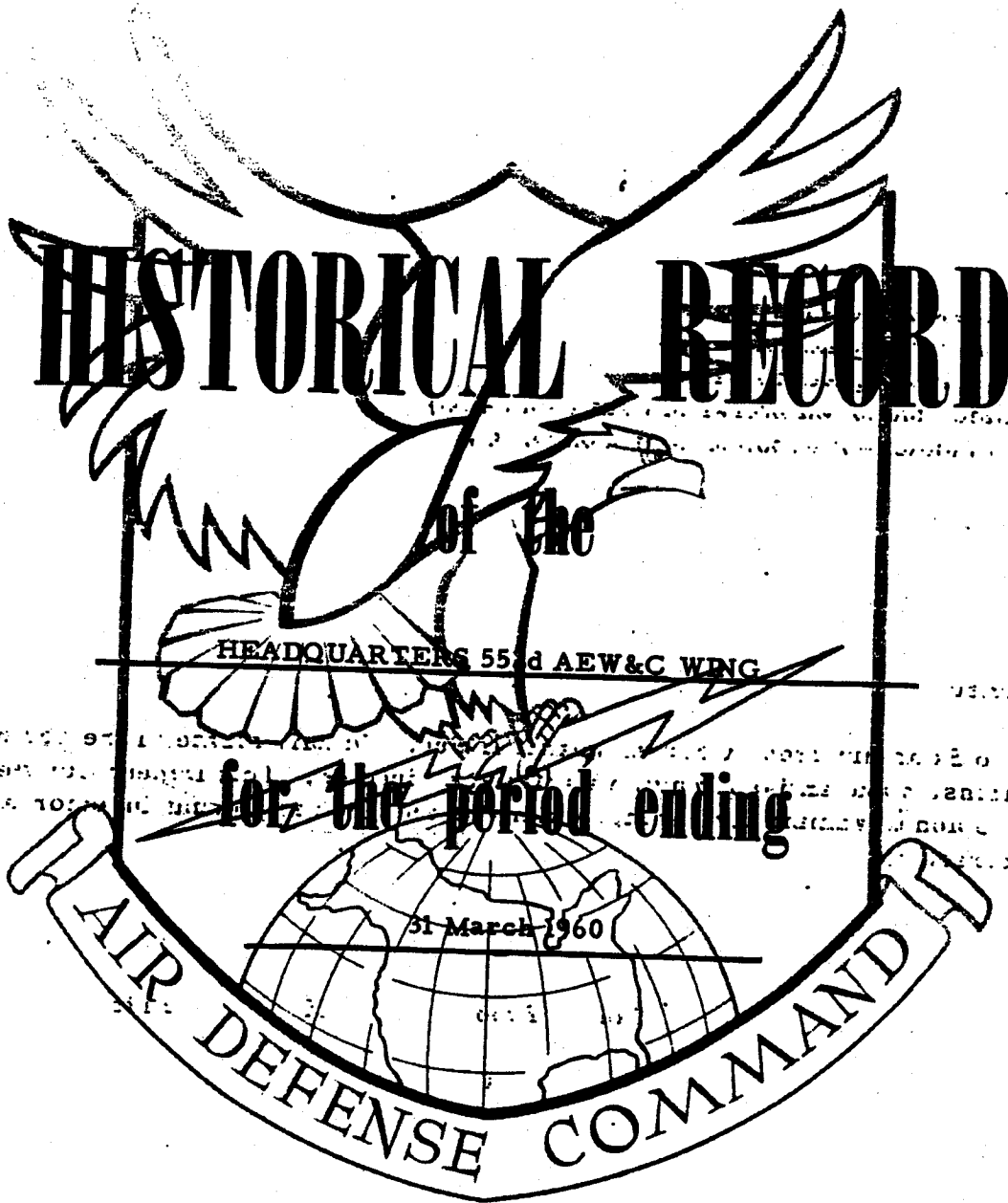
DISTRIBUTION:

- 5 52PDC
- 5 52MDC
- 5 52ODC
- 5 52AAC
- 5 52CSA
- 5 WADF
- 5 Each Squadron
- 1 File
- 5 52LMO

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RCS: AU-D5



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Atch # 3
5000

5-1643-3

Section I.

1. UNIT AND LOCATION 552d AEW&C Wing (ADC) McClellan AFB, California	2. NAME AND GRADE OF COMMANDER Charles F Knierim Colonel, USAF
---	---

3. CHAIN OF COMMAND (Superior Echelons)

Western Air Defense Force (ADC)
Air Defense Command
United States Air Force

4. SUBORDINATE UNITS (Down to and including squadrons)

963d AEW&C Squadron (ADC)
964th AEW&C Squadron (ADC)
965th AEW&C Squadron (ADC)
552d Electronics Maintenance Squadron (ADC)
552d Periodic Maintenance Squadron (ADC)
552d Field Maintenance Squadron (ADC)

5. MISSION (Give authority and brief statement of primary mission)

Authority: WADF Reg 24-2, 28 Aug 59. To provide airborne early warning and control in the Air Defense combat zone. To support the operation of other commands as directed by higher headquarters. To participate in the USAF Collateral mission and anti-submarine warfare as directed. To augment Air Weather Service and to administer, equip, train and prepare for combat in accordance with directives and policies of higher headquarters.

6. PERSONNEL

	OFFICERS	AIRMEN	CIVILIANS	TOTAL
ASSIGNED	448	2038	10	2496
ATTACHED	0	0	0	0

7. EQUIPMENT (Give official nomenclature and quantity of mission-type equipment)

TC-121C - 3
TC-121D - 35
U3A - 1

5204-605-5100

~~SECRET~~ COMMENTARYAdministrative:

(U) During the period 11 through 22 January 1960 a general inspection of the wing was conducted by the Inspector General, Western Air Defense Force. A general evaluation revealed that this command was capable of performing its assigned mission and there were no major discrepancies or deficiencies noted that would adversely affect current mission accomplishment.

Operations:

~~(S)~~ During the first quarter of calendar year 1960 the wing was programmed to fly a total of 16,580:00 hours. We overflowed the programmed time by 1:20 hours. Of the total time 8,762:00 hours on-station time was programmed and 8,669:84 hours were flown giving an effectiveness rating of 99.3% for the quarter. This is the highest percentage of effective on-station time for a quarter in the history of the 552d AEW&C Wing and the month of March was the highest 99.4% for any one month. During the month of January two unscheduled AAD missions were flown in support of the wing Operational Readiness Inspection. These two missions resulted in an additional 11:31 hours of effective on-station time not included in the above.

(U) The use of dualax surveillance reporting as a primary means of communications on a test basis for station 5 ended 31 January 1960. Dualax surveillance reporting by AEW&C stations 1, 3, 5 and 7 began 0001Z 1 February 1960. Station 9 will continue using voice telling procedures until ground equipment is installed at the Los Angeles Air Defense Sector shore receiver site. Voice is being used as back-up communications.

(U) On 1 March 1960 the KAA-29, Triton Authentication System was placed in operation for use in air to ground communications authentication. The KAC-1, Joint Operation Code, will continue to be used primarily to code and decode messages.

(S) During the quarter two deployments in support of Project Discoverer were made. During the first deployment (25 Jan - 5 Feb 60) a successful practice mission was flown by the entire task force. An actual pickup mission was not flown due to a faulty missile. The second deployment (17 Feb - 20 Feb 60) ended without a recovery attempt, again due to a faulty missile.

(U) Several cancellations of scheduled flights by 552d Wing aircraft, to be used as a test bed for the TEMCO video correlator, were made in January and February due to non-availability of the specially equipped KC-135. The KC-135 was unavailable due to performance of high priority missions on the east coast. The possibility of using a SAC Big Blast aircraft in place of the KC-135 proved unfeasible since such aircraft are not properly equipped for this test. In March, Air Defense Command directed that our aircraft proceed to Otis AFB, Mass., for testing in hopes that TEMCO testing could be conducted jointly with the

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higher priority mission. The aircraft departed McClellan on 12 March 1960 and the testing was successfully completed on 19 March 1960. This ended the 552d AEW&C Wing commitment on the project.

(U) On 17 February 1960, AEW&C stations 15 and 17 were relocated to their prior coordinates. This action concluded the inbound relocation of the four stations which took place on 17 December 1959.

(U) During the period from 1 to 6 March 1960 a staff visit was made to the 551st AEW&C Wing, Otis AFB, Mass. Profitable idea exchanges were made. The quarterly operations inspections of our tactical squadrons was conducted by the wing operations staff 23-25 March 1960. Each squadron received a satisfactory rating. In an effort to provide more efficient utilization of personnel and materials the tactical squadrons have been reorganized from a four flight to a three flight organization.

(U) In accordance with the provisions of AFR 51-6 and ADCM 51-2, Volume 8, a separate Wing Standardization and Tactical Evaluation Board was organized. The board is composed of seven personnel serving as primary duty members. Previously, board members served as an additional duty basis. It is felt that this new primary duty board will provide for more efficient operation.

(U) During January the wing received an Operational Readiness Inspection by Air Defense Command during which all aspects of the mission were exercised. The results of the ORI were most gratifying and revealed no deficiencies that would prevent the wing from performing its assigned mission.

Personnel:

(U) 8 February 1960, Colonel Morris E Petty, 9516A, former Director of Operations, 552d AEW&C Wing, was assigned duty as Acting Deputy Commander and Lt Colonel William H Gibson, 5896A was assigned as Acting Director of Operations. 1

(U) Officer manning during the period remained at 102%. Again slight overages in pilots and navigators offset our shortage of weapons controllers.

(U) During the quarter 22 of our officers were tendered appointments in the Regular Air Force out of a total of 76 that applied. This represents a selection ratio of a little better than 3 to 1. Of those selected 11 were pilots, 9 were navigators and 2 were non-rated. Eighteen of the 22 were college graduates, 3 possessed 1 to 3 years college and 1 was a high school graduate.

1. See Atch 1 for Hq 552d AEW&C Wing General Order 1, 8 Feb 60.

(If additional space is required, continue on blank sheets, size 8x10%, appropriately numbered, and attached securely hereto)

TYPED NAME AND GRADE OF COMMANDER
CHARLES F KNIERIM
Colonel, USAF

SIGNATURE

Charles F. Knierim

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

(U) Airmen reenlistment rate for the period 1 January through 31 March 1960 was 36% for the command. Total number of airmen eligible to reenlist amounted to 89, of this number 28 were career airmen.

(U) At the end of the quarter a total of 431 airmen were on OJT. A total of 92 were upgraded during the quarter.

(U) Airman manning continued to be near the authorized strength. Shortages still exist in the following career fields: 271X0 Air operations; 421X1 Propeller repair; 421X3 Ground power; 601X0 Fleet service; 702X0 Administration. These shortages are offset by overages in the radio and radar operations fields.

Electronic Maintenance:

(U) Test Equipment Facility. Final resolution to the problem of responsibility for calibration of test equipment was completed by written agreement with Sacramento Air Materiel Area. The facility, previously established in building 1042 by the electronics maintenance squadron, was to remain; however, equipment and facilities were picked up by Sacramento AMA on their Unit Authorization List and the facility manned entirely by SMAMA personnel. Manning was on a normal 40 hour week basis, 0800 to 1700, five days a week. On-call arrangements were available for weekends, holidays, or at other times as deemed necessary to support mission requirements.

(U) Ground Powered Equipment. During this quarter, ground powered requirements for the electronic maintenance building were thoroughly reviewed, researched and discussed. This has been an area requiring resolution for the past four years. The matter was resolved with a view toward future programmed systems and any further problems should be alleviated. Two MD-4's for 400 cycle AC volts and two MA-2's for DC volts were procured and transformer capabilities for power input to the units are being increased. No further problems in this area are anticipated, with the exception of logistic support, currently being reviewed.

(U) AN/APS-T4 Trainer. Landair personnel reported to this headquarters in November 1959 to install an APS-45 antenna simulator. It was the understanding that subject simulator would be a finished product, requiring

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

only installation and time for evaluation. It was apparent after a few days that in actuality, only the barest essentials with preliminary engineering were presented. The use of the trainer was made available to Landair for an extended period of time and support was provided where possible in an effort to produce an operational simulator. Landair personnel were given repeated extensions of time and made several attempts to produce an acceptable item. The APS-45 antenna simulator has never proven satisfactory. The simulator, in its installation, never had more than one mode of operation satisfactory at one time. As one mode came into operation, the next mode could not be obtained. Changes were required to obtain the next mode and when these changes were made, the original mode of operation could not be used. The modes that were obtained could not be aligned or were extremely unstable. It was a considered opinion that at no time did the antenna simulator come close to being an acceptable item. Landair departed late in March 1960 without having accomplished an installation. We were informally advised that another chance was to be given to Landair to engineer a suitable device. No target date was given.

The ACTER device installed late in 1959 played an active part in the training program and emphasis was placed on continued use of this device. As of the period of this report, the ACTER device had become inoperative and we were experiencing parts procurement problems. Although similar devices were widely used in ground sites, it has not been picked up in Air Force inventory. This created a problem of procuring valid stock numbers for requisitioning action. Prime AMA (Ogden) was advised of the problem and requested to furnish this headquarters a parts breakdown with valid stock numbers and identification.

During the quarter, a communications jammer device was installed in the T-4 trainer. This item proved satisfactory and became a part of the primary trainer. The same problems were present for logistic support as with the ACTER device, but action is being taken to correct this deficiency.

Since the arrival of the AN/APS-T4 trainer, considerable trouble was experienced in maintaining a healthy working condition in the vans. Climatic conditions were controlled by means of an air conditioning unit that was a combination heat exchanger/refrigerator. Subject

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

unit was required to be in operation in excess of 120 hours per week and was a constant problem source. Due to its complexity SMAMA personnel and this command have been unable to satisfactorily maintain this unit. An attempt to maintain the unit by contractual service with a local contractor was not successful. This was due to unavailability of descriptive literature and means of identifying and procuring parts. This problem was brought to the attention of the responsible Prime AMA and consideration was being given to a possible overall change to an air conditioning unit that could be supported with local resources.

(U) APS-20 Radar. During this period, a radiation shield was developed to protect personnel from possible Xray radiation during operation of the APS-20 radar equipment. An unsatisfactory report was submitted citing use of this shield as recommended corrective action. SMAMA gave interim approval as a Class I modification and it was forwarded to AMC for approval. Shields were locally manufactured and all aircraft retrofitted on the interim approval. At the close of this period, the local sanitation and hygiene engineering department was conducting a resurvey to ascertain that all spurious radiation had been eliminated.

(U) APS-95 Radar. A Group "A" Parts Provisioning Conference was held at Lockheed, Burbank California, with representation from this headquarters in attendance. Approximately 500 bits and pieces were recommended by conferees against the original 40 items recommended by the contractor. In the past, procurement had been made mostly on contractor's recommendations, but experience had shown that contractors were not cognizant of unit capabilities or the many problems that arise in the field. It was felt that the current provisioning would eliminate many of the problems experienced in the past in integrating new systems in aircraft.

(U) APS-95 Radar Equipment Training. At the end of this period, the last two classes of factory training at Hazeltine Corporation was in progress with graduation dates of 6 May and 17 June respectively. Training of the first two classes was very inadequate; however, the present training was deemed satisfactory. The base FTD APS-95 training was scheduled to commence 4 April, providing six-week classes for a maximum of 20 students per class. The APS-95 MTU

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd---

trainer is at Lockheed for installation of equipment. No target date was available for its arrival here because of difficulties encountered in the operational check of the APS-95 equipment.

(U) Prototype APS-95 (A/C 541). The Group "B" equipment had been installed, smoke test completed and the aircraft in the flight test phase with a completion date of 30 August 1960. Problems of design deficiency and incompatibility of the aircraft and APS-95 equipment were encountered. Lockheed and Hazeltine engineers were attempting to solve the above problems at this time and foresee no appreciable delay. The magnetron exchange mechanism was re-designed and a recent test indicated the maggie can be changed in less than 30 minutes.

(U) APS-95 Retrofit Program (A/C 127). The first RC-121D, Serial Number 127, was turned over to SMAMA on 18 March for APS-95 retrofit, with a return date of 21 May 1960. Class "A" kit was received and being installed with only very minor problems. Class "B" kit (black boxes) were expected to arrive 8 April 1960. The scheduled input for retrofit was as follows: 1 - March; 1 - April; 2 - May; 4 - June; 4 - July; 4 - August; 4 - September; 4 - October; 4 - November; 3 - December; 3 - February.

(U) Dualex Tapewriter. SMAMA evaluated the installation of a foot switch for the dualex operator as proposed by this headquarters. AMC approval was given and engineering prepared a formal technical order for the installation as proposed.

A request for revision to existing ECL's to include Tektronix Oscilloscope TS-315 was submitted by this headquarters. This was approved by Hq ADC and forwarded to AMC, requesting interim approval for procurement. Subject oscilloscope is essential to maintenance of dualex equipment.

(U) ALRI. Representatives from this command attended an ALRI conference at Dayton AFD during the period 23 through 24 March. 2

(U) APS-45 Radar. The new heavy duty type azimuth drive motors for the APS-45 were received and installed in all aircraft. The

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2. See Atch 2 for Trip Report, MSgt Hewitt, 31 Mar 60

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd---

operation increased considerably and the failure turnover rate of subject drive motor decreased 90 percent.

Supply:

(U) Inspections of the supply functions of the wing were conducted by WADF on 19-21 January and by wing staff personnel 4-5 January. Re-inspections and followups were made by wing staff on 8 March. Additional inspections by higher headquarters included Operational Readiness, War Reserve Material and Project Count.

(U) Project Count was accomplished during the month of February. Upon completion of wall-to-wall inventory, new records of locator files and stock records were established. Pre-post procedures were initiated, which should contribute considerably to the improvement of accuracy of AFN Account accuracy. Time change supply support for February was 81 percent and bench stock support was 78 percent.

(U) Disaster Control and Supply Room. The 552d Wing consolidated disaster control and supply room was completed and utilized during the monthly simulated alert.

(U) Consolidated Supply List. The consolidation of wing expendable office and housekeeping supplies was established and in operation to support all organizations of the wing.

(U) Active Stock Record Cards. At the end of this period, the following active stock record cards were being maintained: Category I - 262; Category II - 2732; Category III - 8365; Total - 11,359.

Maintenance:

(U) Parc Schedule Adjustment. A meeting was held on 7 March between wing maintenance functions and SMAMA functions to resolve the PARC schedule adjustment to include the APS-95 installations. This will extend the period aircraft are in the PARC cycle and not available for mission utilization. A technical representative from the APS-95 manufacturer, Hazeltine Corporation, was assigned to the wing on 24 March to assist in the operation and maintenance of the equipment.

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd---

(U) Engine/Propeller Problem. At the close of this period, 37 of the assigned 38 aircraft were equipped with the 43H60 propellers. RC-121D, S/N 53-0541, at this time bailed to Lockheed, was the only remaining assigned aircraft to be modified and was scheduled for accomplishment immediately upon return. Two Hamilton Standard Propeller Company representatives visited the wing to determine if any assistance was required in the program. This T.O. compliance has resulted in increased fuel load on aircraft, extending their operational range.

(U) Piston Project. As of this date, 78 new piston engines had been installed and 14 low time engines (0 to 600 hours) were removed for top overhaul and return to this activity. Four standby engines at Hawaii were also to be returned for top overhaul upon availability of replacement new piston engines for standby. During the month of February, 13 aircraft aborts were attributed to piston failures. Conversion to the new (hard) piston engines is expected to alleviate this piston problem.

(U) Reorganization. Consolidation of the 552d Field Maintenance Squadron production control section into the wing maintenance control section was accomplished during this period. This transfer aligned the workload section operation in maintenance control in accordance with AF Manual 66-1, 1 July 1959.

(U) ADC Supplement 6 to AFM 66-1. ADC Supplement 6 to AFM 66-1 was received on 29 March. This established the ADC policy on reports, charts and functions for the 551st and this wing. Some problem areas that were anticipated were being consolidated. The monthly maintenance summary will be established according to this publication.

(U) Aircraft Washing Contract. As of 31 March 1960, Albert J Jansen, on contract AF04(606)7789 satisfactorily completed \$25,849.00 of contracted services for the 552d AEW&C Wing. Monthly amount was: January \$8,225, February \$8,474, and March \$9,150.

(U) RC-121D Aircraft Average. The RC-121D aircraft average for the period 1 January through 31 March 1960 equalled 176.3 hours per aircraft per month. The averages were based on hours flown for the

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd---

period the aircraft were possessed. Monthly average was: January 178.2, February 170.0, March 180.8.

(U) AAD Mission Abort Statistics.

<u>Month</u>	<u>Total AAD Aborts</u>	<u>Radar Aborts</u>	<u>Aircraft Aborts</u>	<u>Other Aborts</u>
January	24	3	21	0
February	28	4	24	0
March	22	4	18	0

(U) Aircraft Improvement. Maintenance Engineering Order (MEO) Number 46 was initiated during this period, for replacement of fans axial flow, S/N 4140-516-4551, with fans, S/N 6150-303-3803. The replacement blower had been found to be more dependable and capable for longer operation before replacement. The MEO was to be complied with during replacement cycle.

(U) Materiel Control Statistics.

Bench stock fill rate: 65.5%

Reparable processing: Wing shops - 1109; On base - 863;
Prime Depot - 2522; Salvage - 475

Time change fill rate: 74.7%

Technical order compliance: Kits ordered - 84; Kits received - 65

Civil Engineering:

(U) Military Construction Program. AF Forms 161, Project Description and Justification, were prepared and submitted to Hq WADF for the nine-project Fiscal Year 1962 MCP.

(U) P-459 Program. The only project in the Fiscal Year 1960 P-459 funding category was obligated during this period. This project was a \$14,000 modification of building S-1016.

In the FY 61 P-459 program, the only project provided for a traveling crane to be installed in the field maintenance hangar. This project was estimated at \$74,000.

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

(U) P-458 Program. The O&M minor construction program, that was approved by Hq WADF, was completely obligated with the exception of a \$9,500 project for the rewiring of building 1046. This project was delayed until the fourth quarter due to obligation ceilings placed on this headquarters.

Approval was also received to accomplish several projects through the resources of this headquarters. These projects were: Air conditioning for the maintenance control room (\$800); air conditioning for survival equipment (\$4,600); and electric hoists for the propeller shop (\$6,000). Money has been made available to accomplish these projects during the fourth quarter.

(U) Installed Property. Hoists installed in the 552d Wing were transferred from UAL property to installed property after a ruling from Hq USAF that they would be installed property.

Comptroller:

(U) By the end of the third quarter FY 60, O&M funds were committed and obligated in the amount of \$530,997.86 and \$517,482.42 respectively. This is 99.9% of the commitment ceiling and 99.9% of the obligation ceiling.

Community Relations and Public Information:

(U) During the reporting period the information office prepared a weekly twenty-five minute music and news show for radio station KGMS, and a weekly five minute newscast for radio station KXOA. In addition another five minute weekly newscast was begun the first week in February for radio station KROY. During February Channel 6 television (KVIE) aired the film "Guard of the Sky." The showing of this film was given extensive prior publicity both on base and through radio media. The AF News Review for March and the DEW Line film were loaned to Channel 6 television and were aired on 14 and 17 March, respectively.

(U) A slide series and narrative on the mission of the 552d AEW&C Wing were sent to Air Defense Command in January 1960.

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ANS. 5006

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

(U) The information office arranged for nine speeches by members of the wing to local civic and business organizations for a total attendance of over 500. Colonel Morris E Petty and Lt Colonel Joseph E Nestor, Jr., were appointed by the Sacramento Chamber of Commerce as representatives on the Sacramento Speakers Bureau.

(U) Fourteen members of the Mobilization Detachment #15 (6121st USAR Control Group) were briefed on the 552d's function in NORAD and were conducted on a tour of the T-4 radar simulator and the flight simulator. This tour was the first of its kind and is considered excellent for groups of 30 or less.

(U) Lt William A Bingham, Jr., was appointed vice-chairman and secretary of the Sacramento Armed Forces Public Affairs Council. Lt Andrew W Arlotto was named as SAFFAC's liaison officer to the local USO for publicity arrangements concerning the AF Military Ball which will (in May 60) be combined with the USO May Queen Dance.

(U) Navy Reserve Research Company 12-6 received a wing briefing and a tour of wing facilities. The group included faculty members of the University of California at Davis, California.

(U) A new format was started with the first 1960 issue of The Sentinel the wing newspaper. Cost of The Sentinel was reduced from \$54.60 per issue to \$32.33 per issue, a savings of approximately \$579.02 per year.

Ground Safety:

(U) Ground accident summaries for the quarter reflected an upward trend in all ground accident categories, excepting civilian personnel (who from 1 January 1957 through 31 March 1960 have accumulated 87,412 manhours without a reportable accident), USAF government vehicle, and other USAF property. The worst toll was disabling injuries to military personnel, for the highest injury rate since 1957. The military disabling injury rate was 6.13 for the first quarter 1960 in comparison with 2.59, for a like period in 1959. There were two fatalities during the report period bringing the toll to 5 for the last six

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5006

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ADC Form 102, Historical Record of the 552d AEW&C Wing, cont'd----

months. Two airmen were fatally injured when their motorcycle was struck by a lumber truck through failure to yield the right of way. Total ground accident cost for the first quarter 1960 was \$66,279.00.

(U) Major Alan W Elder, Chief of Safety, attended a joint Air Force and Red Cross "Water and Boating Safety Program" conference, 28 - 29 January 1960 at Hq WADF. Information gleaned from the conferees was forwarded to the base ground safety office for inclusion in the base program of indoctrination of military personnel for the oncoming season.

Major Elder was selected to attend the Missile Safety Course, Chanute AFB, Illinois during the next quarter.

Flight Safety:

(U) The year 1959 closed with the 552d Wing having produced an enviable official aircraft accident rate of 2.9. The WADF computed rate, which integrates minor as well as major accidents was 4.9. This was the lowest rate produced by any WADF flying organization. So far in 1960 the aircraft accident rate is zero for the 16,629 hours flown, as compared to a WADF computed rate for the wing of 12.07 for the 15,767 hours flown during the same period of 1959. The wing has been incident and violation free so far this year.

(U) Twenty-four aircraft accident prevention meetings were conducted by the three tactical squadrons, utilizing support materials provided by the wing office for safety. Such materials included the Lockheed film, "Fuel Jettison Characteristics of the Constellation Airplane." The film depicts fuel dumping at various aircraft configurations, inclusive of emergency situations involving structural or engine fire. The wing office for safety also effected equitable distribution of posters, digests, bulletins and magazines of a flying safety nature to the seven squadrons during the report period.

Classification and Regrading Action:

(U) This document is classified ~~SECRET~~ as its contents reveal the overall effectiveness of this command and the results of a classified project.

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SECRET 502 5006

General Orders 4, Hq 552nd AEW&C Wing, was the last of the series for 1959.

HEADQUARTERS
552ND AIRBORNE EARLY WARNING & CONTROL WING (ADC)
United States Air Force
McClellan Air Force Base, California

GENERAL ORDERS)
NUMBER 1)

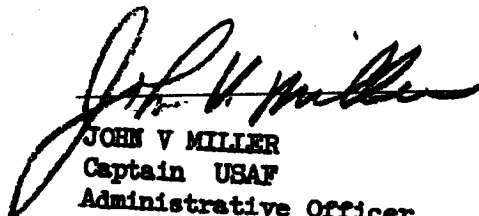
8 February 1960

1. STAFF ASSIGNMENTS.—1. COLONEL MORRIS E PETTY, 9516A, this Headquarters, is assigned as Acting Deputy Commander of the 552nd Airborne Early Warning & Control Wing, effective this date.
2. LIEUTENANT COLONEL WILLIAM H GIBSON, 5896A, this Headquarters, is assigned as Acting Director of Operations, effective this date.

FOR THE COMMANDER:

DISTRIBUTION:

5 52PDC
5 52MDC
5 52ODC
5 52AAC
5 52CSA
5 WADF
5 Each Squadron
1 File


JOHN V MILLER
Captain USAF
Administrative Officer

2A 1

52802-EM

31 March 1960

Trip Report (ALXI Conference 23 - 24 March 1960)

52802

1. Personnel from this headquarters and the 572nd Electronic Maintenance Squadron attended a conference at Gentile AF Station, 23 and 24 March 1960. Purpose of the conference was to discuss maintenance concepts relative to ALXI.

2. Conference in attendance were as follow:

Alfred S. Feldman	Burrroughs
George A. Harting	Burrroughs
Claire A. P. Duffie	Burrroughs
Deana B. Dennis	DAFD (REPAIR)
Michael Gish	DAFD (REPAIR)
William S. Condiff	VAED (WALKER)
H. W. Cunningham	VAED (WALKER)
David B. Nott	DAFD (REPAIR)
H. E. Avil	DAFD (REPAIR)
Captain V. P. Anderson	REPAIR
Alvin M. Gohney	SCMA (M)
Major Ramon M. Loughter	SEC (ALX-CC)
Captain John H. Baker, Jr.	572nd EM Sq
MSGT Alfred R. Hewitt	Sq 572nd AMBACOM Wg
MSGT Richard M. Rowillard	572nd EM Sq
Captain E. J. Birge	551st AMBACOM Wg
MSGT E. E. Wright	551st EM Sq
MSGT Albert Larrison, Jr.	551st EM Sq
E. L. Sherman	DAFD
E. J. Gayne	DAFD

3. The conference convened at 0900, 23 March, and was opened with an introductory speech by Colonel Schuler of Dayton AFB, outlining Gentile's position and responsibilities. The meeting was turned over to Mr. Duffie of Burrroughs Corporation. Mr. Duffie gave a presentation of a block diagram and resume of the operating features of the various components in relation to the overall data link sage system. Following is a brief breakdown and resume of proposed ALXI system:

a. ALX-49 (MIF), presumably a modification of the ALX-7 or 7A system to be done by Packard Bell. Space provisions will be made for Mark XII SIB/IFF for possible installation at a later date.

atd 2

b. The automatic navigator will be a Doppler manufactured by General Precision Laboratory. It has not been decided as yet whether existing APN-120 will be used or a less sophisticated version of the RADAN 500. This will replace APA/57C.

c. The Data Link Processor will be manufactured by Burroughs comprised of four cabinets in one console. Design will utilize modular construction for ease of maintenance. The four cabinets will consist of (1) Memory Circuits, (2) Loggi Nodes, (3) Arimuth Generator, and (4) Power Supply. The Memory Circuits will be printed circuits of bread board construction which can be inserted or withdrawn without tools, similar to a card in a card file. Circuit boards will be inexpensive and three-way type. The Loggi Nodes will be sealed transistorized units of unitized construction. Loggi Nodes will of necessity be three-way type also, and though fairly expensive, Burroughs has assured that reliability is high. We requested that consideration be given to possible reclamation and repair to alleviate high cost. Arimuth Generator will be of standard solen construction with high reliability and limited in-flight maintenance capabilities. Power Supply will not be repairable in flight, but has high reliability and is repairable at organization level.

d. The stabilization platform will be a sealed unit not repairable at organizational level. This will be manufactured by A.C. Spark Plug and will replace the present GMS platform.

e. Three APA-56 consoles will be removed entirely and the remaining consoles modified by Burroughs with a clutter mapping device. The IP-230 EPI will also be removed but photo mapping capabilities will be included in modification of clutter mapping device. It has been proposed to replace IP-230's with APA-125 indicators; if approved, this would negate APA-56 modification by replacement.

f. The APN-45 is to be modified by Skiles and be given a new nomenclature. Modification will consist of a new magnetron and associated circuits to increase power output to 1.1 meg watts and range increase of 40 miles. Automatic height information will not be fed into the Data Link Processor but will be passed to ground by voice tel or dialer.

g. The present communications system will be modified by removing seven of the existing AK-27 VHF transmitters and controls will be deleted except in stations that are to be manned. A 1 kw transmitter will be installed for air to ground data link with 2 com receivers for pilot/copilot and taller utilization. Two steerable antennas will also be installed, one for the automatic navigator and one for the A/S 1 kw transmitter. Components will be manufactured by Electronics Communications Corporation of St. Petersburg, Florida.

3. Additional studies were made on the aircraft power requirements which revised thinking. Originally, Lockheed had contended that existing alternators would suffice. Present day consensus has acknowledged a need for a larger power package. Now 40 KVA constant drive 400 cycle alternators have been provisioned. Barroughs is asking for 100 per cent backup on this frequency and power. Final resolutions are still pending.
4. Ground Support Equipment is presently under study by Barroughs. They have asked subcontractors for ideas and recommendations to be submitted by 1 April 1960. This information will be hand-carried by Barroughs for review and discussion with Guntile representatives to be presented at future GMS conferences. A reliability from subcontractors will also be provided by Barroughs for provisioning.
5. Barroughs proposed a monitor group similar to that being installed with the AF9-95. Purpose of this monitor was supposedly to ring out the active system for trouble shooting and isolate malfunctions. This would duplicate capabilities of the AF9-95 In-flight Performance Monitor (IPM). Barroughs proposed replacing the IPM or modifying it. The ALM system will be equipped with meters and indicators that would give a go or no-go determination in major components. This headquarters representative felt that an overall IPM would duplicate both this feature and the AF9-95 IPM needlessly and would not warrant the exorbitant cost involved. At the preliminary bidders conference, Barroughs had indicated the capabilities for ringing out the system would be included. Mr. Cardiff of WABD made this a point of discussion which developed into a contractual agreement argument. The meeting closed without definite resolution as a matter to be ironed out first on contractual agreement. The proposed cost was approximately \$17,000 per aircraft. This was not a valid figure as Barroughs refused to commit themselves to a figure to be held to.
6. Major Loughter, ABC representative, held a short discussion with Captain Mirago of the 951st Wing and Majt Hewitt regarding the area of responsibility for maintenance on ALM equipment in respect to possible shred out of AFBC's. It was generally conceded that the communications and nav aids would remain in the 301X2/1 field with a possible shred out for the automatic navigator but the Data Link Computer would of necessity be in the 301X2 field. ABC is making a study for final determination.
7. On 24 March, military personnel convened at the office of MEMAFI and MEMER to discuss problems relative to the AF9-95 program. Contacts were primarily with Mrs. Deane Dennis of MEMAFI, Mr. Michael Cish and Mr. Nott of MEMER. Mr. Nott advised that MD-4 power units were available at San Antonio for issue to fulfill power requirements for electronics field maintenance activities. This has long been a problem and final approval for requisitioning action is expected momentarily from Hq ABC. The problem of vacuum cleaners for cleaning electronics

equipment aboard the aircraft was discussed. During aircraft washing and APC by the contractor facility, only the aircraft general is cleaned and vacuumed. There is a definite requirement for interior cleaning of consoles and electronic equipment that can only be done by qualified electronic type personnel. During periodic or shop maintenance, certain subassemblies are removed and cleaned, but other assemblies cannot readily be removed. It is necessary, therefore, to do this cleaning aboard aircraft on the line. 60 cycle AC is not available in aircraft on the line, so it is necessary to have either specially designed 20V DC or 400 cycle AC vacuum cleaners. We have been advised by Hamilton that research is being conducted through their subcontractors for a suitable item pending contractual arrangements with Guntile. Guntile is on tentative procurement for five each per Wing. Requirement for special hardware kit peculiar to the AFU-95 has been disapproved. Guntile advised procuring bits and pieces to fabricate our own kits. A late revision to the AFU-95 Parts Breakdown Provisioning Document was hand copied to be used at this area for requisitioning action. A revised schedule for Group "B" delivery from Hamilton was compiled with the help of HEMA and this Wing, see attachment 1.

8. We were advised that the three special purpose trucks for this area were available for delivery. It was tentatively suggested that the vehicles be driven to the west coast to defray transportation charges for shipment. This matter is to be resolved between ABC and AEC headquarters.

9. On the afternoon of 24 March, Mgt Hewitt visited WAFB headquarters to discuss matters with Mr. Harold Cunningham (WELMAN) and Mr. Paul Eyer (AFU-95 Project Engineer). We were shown reports of the AFU-95 flight test and discussed problems involved. Mr. Cunningham dispatched a letter to Col Parker of HEMA, Hamilton and Lockheed, requesting that wing activities be allowed to participate in flight test on a noninterference basis for evaluation and assistance where possible. Problems regarding downgrading of the AFU-95 were discussed and Mr. Eyer was not cognizant of the correspondence downgrading equipment that had been issued by WAFB headquarters. Subject correspondence has been forwarded as of 27 March 1960 for his information and further action.

10. Specifications of the Q5-116 were discussed and were in the process of distribution. Due to their classification of "Secret" we were unable to procure copies to hand-carry back. Action is being taken to procure specifications through channels. We were able to review the specifications, however, and it was noted that the specs referred to an attachment. Subject attachment was specifications submitted by manufacturer (Raytheon) and were being adapted except for minor changes and tightening up in the frequency vibration area. It was pointed out that in our computations, magnitudes were being operated at peak rather than optimum and reliability at peak operation could not

be wholly acceptable. We requested that this area be explored more extensively for employment in a magnetron control and study program.

11. The coaxial wave guide sections were also discussed. Drawings were not available for review, but WMSB maintained that similar type wave guide was presently in use in ground sites and not all specs under lab conditions. It was contended that subject wave guides would only require tear-down or replacement at major overhaul. We pointed out that although similar wave guide in ground sites or controlled lab conditions had proven satisfactory, they were not identical to that to be installed in aircraft, were not subject to same environmental conditions, changes in altitude, temperature, etc. When a breakdown does occur in a wave guide, there is no positive means of determining the section that has malfunctioned and consequently, may require complete tear-down. It is also conceivable that once arcing does take place, breakdown will occur in more than one section. At the provisioning conference, only preliminary sketches were available and wholly inadequate. We requested more intensive study be given to this as a possible problem area.

12. Discussion took place regarding replacement of the aft blower motor with one used in ground powered equipment, but WMSB stated that the replacement motor was not of the explosion-proof type and unacceptable. Our contention was that the one presently installed was not explosion-proof due to having open ball bearing and exposed brushes. WMSB contended that our only recourse was to use the present installation but we could not use the suggested replacement. This matter is to be given more study at this area for suitable resolution.

13. All matters concluded, representatives returned to this area 23 March 1960.

ALFRED L. HEWITT
Maj, USAF
NORC Wing Electronic Maintenance

1 Atch
Op "3" Component Input List

HARRIER GROUP "B" COMPONENT INVENTORY

as of 24 March 1960

AFB-95

MARCH (5)	1 - ALKI (Inst) 2 - SIGMA (Inst) 2 - LARI (Inst)
APRIL (6)	1 - Spare - Otis 1 - Spare - SIGMA 2 - LARI - Inst 2 - SIGMA - Inst
MAY (10)	4 - LARI - Inst 4 - SIGMA - Inst 1 - Spare - Otis 1 - SIGMA - Spare
JUNE (10)	4 - LARI - Inst 4 - SIGMA - Inst 1 - LARI - Spare 1 - SIGMA - Spare
JULY (10)	4 - LARI - Inst 4 - SIGMA - Inst 1 - Otis 1 - SIGMA
AUGUST (10)	4 - LARI - Inst 4 - SIGMA - Inst 2 - Spares
SEPTEMBER (10)	4 - LARI - Inst 4 - SIGMA - Inst 2 - Spares
OCTOBER (10)	4 - LARI - Inst 4 - SIGMA - Inst 2 - Spares
NOVEMBER (10)	4 - LARI - Inst 4 - SIGMA - Inst 2 - Spares
DECEMBER (10)	2 - SIGMA - Inst 2 - LARI - Inst 6 - Spares