K143.01
Jul-Dec 1959
V. 1

RETURN TO:
Director
Aerospace Studies Inst
ATTN: Archives Branch
Maxwell AFB, Alabama

CMS

HISTORY

DIRECTORATE OF CIVIL ENGINEERING

DCS/O

1 JULY 1959 - 31 DECEMBER 1959

Declassified By USAF
(SAF/AA11 # 44)
IAW: AF Declassification Guide
dtd December 2012

21 FEB 2014

EXEMPTED FROM
DECLASSIFICATION IAW EO 12958
REVIEW DATE 10/96 REVIEWER 60
REFER TO State
EXEMPTION (S): 1 2 3 4 5 6 7 8 9

IRIS Public Record

DECLASSIFIED

Key Information

Main: DCS/OPERATIONS

Rcvd:	Rel 1992/02/27
Indexer ID: 35	Entered Date:
QC ID:	QC'd Date::
Scanner ID:	Scanned Date:
Acc ID	Acc Date:

Document Type: HISTORY
Call Number: K143.01 V.7
IRIS Number: **00470446**
Accessions Notes: REF 00470441
Old Accession Nbr: 6-1558-5
Title:
Beginning Date: 1959/07/01
End Date: 1959/12/31
Publication Date:
Classification *SECRET*
Media Roll #: 11847 First Frame: 27 Last Frame: 118 Linear Feet: 0
Old MFlm Roll # K1148 Audio Rec:
NUMPAGE 0
Title Extensions: VOL VII OF VII (6)

Abstract AIR FORCE ACADEMY CONSTRUCTION TOPICS INCLUDE: CONTRACTS; FUNDS; LEGAL; ADMINISTRATION; AND OPERATIONS. REAL PROPERTY TOPICS INCLUDE: MILITARY CONSTRUCTION PROGRAM (MCP), FISCAL YEAR 1960 AND FISCAL YEAR 1961; COMMAND PRESENTATIONS; FORCE STRUCTURE CONSTRUCTION AND ESTIMATES; FISCAL YEAR 1960 O AND M BARRACKS MAINTENANCE AND MODERNIZATION PROGRAM; CHAPEL IMPROVEMENT; UTILITIES; EMERGENCY AUTHORIZATION; A-35 REPORT; DEFENSE SYSTEMS, AIRCRAFT CONTROL AND WARNING (ACW); SAGE (SEMIAUTOMATIC GROUND ENVIRONMENT); FREQUENCY DIVERSITY RADARS; GAP FILLER RADARS; SAGE GATR (GROUND/AIR TRANSMITTER/RECEIVER); BOMARC; BALLISTIC MISSILES AND SPACE SYSTEMS; REAL ESTATE OPERATIONS; TITLE VI CLEARANCE ACQUISITIONS; DISPOSALS; CONDEMNATIONS; BOMARC LAND ACQUISITION; SAGE LAND ACQUISITION; NORAD (NORTH AMERICAN AIR DEFENSE COMMAND); FISCAL YEAR 1960 ICBM (INTERCONTINENTAL BALLISTIC MISSILE) PROGRAM; RETENTION PROGRAM (1959); INVENTORY OF MILITARY REAL PROPERTY; AND UNIFORM CODE OF ACCOUNTS. CONSTRUCTION AND ENGINEERING TOPICS INCLUDE: MASTER PLANNING; BASE COMMUNICATION AND FLIGHT SIMULATOR BUILDINGS; B-52 AIRCRAFT CORROSION CONTROL SHELTER; NORAD COMBAT OPERATIONS CENTER; DEWLINE (DISTANT EARLY WARNING LINE)/BMEWS (BALLISTIC MISSILE EARLY WARNING SYSTEM)/ALASKAN REARWARD COMMUNICATION; DEWLINE EASTERN EXTENSION; FREQUENCY DIVERSITY RADAR PROGRAM, AN/FPS-27; SANITARY ENGINEERING; ELECTRICAL ENGINEERING; APPROVAL OF FISCAL YEAR 1960 MCP; FISCAL YEAR 1960 ACCOUNTABILITY AND APPORTIONMENT; FUNDS RELEASED; CONTRACT AWARDS; MCP AND COST REPORTING; OBLIGATION AND EXPENDITURE LIMITATIONS; OVERSEAS CONSTRUCTION; TM-76 (MACE) MISSILE; FRANCE; KOREA; OKINAWA; PAKISTAN; IWO JIMA; AIR FORCE RESERVE FORCES; ANDREWS AIR FORCE BASE MD; NUCLEAR ENGINEERING TEST FACILITY, WRIGHT PATTERSON AIR FORCE BASE OH; SOLAR FURNACE, HOLLOMAN AIR FORCE BASE NM; OFFICERS QUARTERS, MATHER AIR FORCE BASE CA; MINOR LAND ACQUISITION; LAJES WATERFRONT IMPROVEMENT PROJECT (AZORES); AIRCRAFT LABORATORY FATIGUE TEST (SONIC), WRIGHT PATTERSON; AIRCRAFT MAINTENANCE DOCKS; HEATH FACILITIES; ICBM ATLAS (SM-65) PROJECT; ICBM TITAN (SM- 68) PROJECT; ICBM MINUTEMAN (SM-80) PROJECT; SPACE (SAMOS/MIDAS/DISCOVERER SATELLITES) PROJECTS; IRBM (INTERMEDIATE RANGE BALLISTIC

DECLASSIFIED

IRIS Public Record

MISSILE) THOR (SM-75) PROJECT; IRBM JUPITER (SM-78) PROJECT; SNARK (SM-72) MISSILE PROJECT; MEDIUM BOMBER AIRCRAFT AND KC-97 AIRCRAFT PROJECT; OVERSEAS BASES; AIR TO AIR MISSILES PROJECTS; B-52/KC-135 AIRCRAFT PROJECTS; BOMARC; BMEWS; THULE DETECTION SITE (GREENLAND); CLEAR DETECTION SITE; UNITED KINGDOM SITE; REARWARD COMMUNICATIONS; CONTROL MONITORING FACILITY; ACW OVERSEAS; DEWLINE EASTERN EXTENSION; ALASKA ACW; ALASKA INTEGRATED COMMUNICATION SYSTEM (WHITE ALICE); CANADA ACW; ACW ZONE OF THE INTERIOR (ZI); P SITES (PERMANENT RADAR SITES); M SITES (MOBILE RADAR SITES); GAP FILLER RADAR PROGRAM; RADAR IMPROVEMENT; NORAD CONTROL CENTERS (MISSILE MASTER); SAGE; AND NORAD COMBAT OPERATIONS CENTER. FACILITIES SUPPORT TOPICS INCLUDE: MAINTENANCE ACTIVITIES; CIVIL ENGINEER TRAINING; O AND M SUPPORT OF MISSILE FACILITIES; PREVENTIVE MAINTENANCE; DOD (DEPARTMENT OF DEFENSE) FAMILY HOUSING LIAISON GROUP; IMPROVED FIRE PREVENTION ENGINEERING FEATURES; FIRE PREVENTION; FIRE RESCUE VEHICLE IMPROVEMENT PROGRAM; TRAINING; FAMILY HOUSING; HOUSING CONSTRUCTION; DESIGN; WHERRY HOUSING ACQUISITION PROGRAM; INADEQUATE QUARTERS PROGRAM; CONTRACTS AND HOUSING CONFERENCE.

Descriptive Notes:

Title Added Entries

Author: DIRECTORATE OF CIVIL ENGINEERING

Subject:

Major Command:

Doc Link:

Administrative Markings

For Official Use Only

Security Review Information: **Reviewed IAW EO12958 ** Exemption 25X6 ** 05 MAY 1**

DECLASSIFIED

REPORT OF THE DIRECTORATE OF CIVIL ENGINEERING, [illegible]

1 JULY 1959 TO 31 DECEMBER 1959

DECLASSIFIED

PREPARED FOR

[illegible] MEDICAL DIVISION LIAISON OFFICE

BY

ADMINISTRATIVE [illegible], AFOOE

APPROVED ON 21 Oct 1960

22 MAY 1961

HEADQUARTERS, UNITED STATES AIR FORCE

DECLASSIFIED

TABLE OF CONTENTS

Preface

CHAPTER I

PREFACE

CHAPTER I

PREFACE

Personnel Assignment Changes

Effective 10 September 1959 Colonel David E. Kunkel, Jr., Executive Officer for the directorate, was assigned as assistant director of Civil Engineering and Colonel Wallace E. Grubbs, Assistant Executive Officer, was assigned as Executive Officer.

Army Troop Construction Support of the Air Force

The FY-1961 peacetime troop construction requirements were submitted to the Department of the Army. However, because of unresolved controversy over budgeting responsibilities and lack of peacetime construction overseas for accomplishment by Engineer Troops, a new approach to this requirement is now under study.

The Department of the Army was advised on 24 July that the recent delegation of authority by Joint Chiefs of Staff assigning Unified and Specified Commanders responsibility for total war planning will necessitate a change in the procedure previously followed in the forecast of troop construction support of the Air Force overseas. The Air Force is but one component of such command and should develop its portion of unified plan, but development of total construction requirements is believed to be the responsibility of the Unified Commander. The Department of the Army replied it was in agreement that new procedure is required and suggested that a committee be formed to study revisions to the proposed joint Army-Air Force regulation which was previously drafted but never published mainly because of budgetary disagreements. Guidance in this matter is

expected from the Secretary's office either late in January or early February 1960. The main concern, of course, is to have troop construction support available during a small war or events building up to such a war.

AF Academy Construction

CHAPTER II

AIR FORCE ACADEMY CONSTRUCTION

CHAPTER II

AIR FORCE ACADEMY CONSTRUCTION

The U. S. Air Force Academy construction program closed the year with only two projects remaining physically incomplete. The program was 96.4 per cent finished.

These were the major developments in 1959:

(1) The value of completed work jumped from approximately $108,000,000 to $114,000,000. At the end of 1957, $58,000,000 worth was done, and at the end of 1956, $9,000,000 worth.

(2) Twenty-six major contracts (including nine of more than $1,000,000 each) were physically completed, compared with 45 in 1958, 20 in 1957 and 6 in 1956.

(3) The labor force totalled more than 2,000,000 man-hours of work at an average rate-per-hour of about $3, bringing well over $6,000,000 into the region's economy.

(4) The work under contract shot up from $73,000,000 in 1956 to $118,000,000 in 1957 to $132,000,000 in 1958 to $136,100,000 in 1959.

(5) Major physically completed building contracts soared to 97, but 25 projects remain contractually unfinished, pending completion of contractual obligations beyond the construction itself.

(6) Dedication of the institution was held in June in conjunction with graduation of the Academy's first class in history. The cadets moved in August, 1958, from the interim site, Lowry Air Force Base near Denver, to the permanent campus.

(7) Labor-management-Air Force relations continued outstanding and workmen posted an excellent safety record as the construction program moved systematically forward.

(8) Total awarded contracts of all types increased to 363 and subcontracts to more than 1,000.

(9) The year saw completion of such major projects as the academic complex (Fairchild Hall), cadet quarters (Vandenberg Hall), administration building (Harmon Hall), officers' open mess, cadet social center and theater (Arnold Hall), cadet physical education complex and 1,200 units of Capehart family housing.

(10) The chapel contract - - final one in the current construction program - - was awarded in August, and work began in September on what is to become the dominant feature of the Academy campus.

Contracts

Only one contract was awarded during the reporting period - - to Robert E. McKee, General Contractor, Inc., for construction of the Academy cadet chapel at a cost of $3,331,500.

One invitation for bids was issued for the sale and removal of buildings and improvements, with bids scheduled to be opened on 12 January 1960.

Sixteen purchase orders and delivery orders were written for services and supplies totaling $2,666. Numbers are reserved for three purchase orders which had not been written.

Thirty contracts were closed out financially at a total value of $45,035,371. Several other contracts were physically completed

where expeditious provision of additional funds was no longer a necessity.

Near the close of the period, a detailed status of claims being processed by the Armed Services Board of Contract Appeals (ASBCA) was provided to the Director of Civil Engineering. The purpose of such action was to furnish an up-to-date review emphasizing the major problem areas which will occur from now until the Agency is abolished.

The dwindling balance of funds available for Academy construction provokes ever-increasing emphasis on claims which will have to be paid versus contract increases which may have to occur in the last two major construction contracts, the chapel and hospital.

Legal

The legal office received 16 opinions rendered by the Armed Services Board of Contract Appeals (ASBCA) on appeals by contractors from decisions of the Agency contracting officer during this period.

In these appeals, the contractors were sustained in five cases totaling approximately $180,000, and the government in 11 cases totaling approximately $103,000.

The office participated in 24 hearings before the ASBCA during the period on claims by contractors against the Agency for about $270,000.

In addition, the office processed records for 29 hearings which are expected to be heard during 1960. The total amount claimed by contractors in these appeals is estimated at $5,000,000.

Administration

Prior to August, 1959, the entire Brainard Building at 1111

North El Paso Street was occupied by the Agency. Because of the Agency phasedown, personnel were consolidated in the southerly portion of the building and 10,633 net square feet of office space was made available to the Air Defense Command. An additional 958 square feet of space was scheduled to be turned over to ADC on 1 January 1960.

Assigned vehicles were reduced by 30 per cent during this period, and the cost of operation was decreased by more than 30 per cent. Total mileage was reduced monthly. It showed a net decrease of 56 per cent for December, 1959, compared with the 30 June 1959 total.

Operations

At the end of the period, only two projects - the water storage and hospital - - remained physically unfinished.

Construction placement reached $110,220,502 in value and was 96.4 per cent completed. Final payment requests were processed on all but nine contracts by the operations division.

Weather in the second half of 1959 was normal with the exception of 10 September to 3 October, when 3½ inches of snow fell on the Academy site, stopping all work for six days.

Total work in place went from approximately $112,900,000 on 30 June 1959 to $113,750,000 on 31 December 1959.

A total of about $2,900,000 worth of work was placed in the 1,000 Lowry housing units, completing that project.

Construction personnel decreased in number from 1,450 to 885. The spring of 1960 should find about 300 men on the job. There

were no labor strikes during the period.

As the period opened, 36 contracts were active. At the end, nine remained active. (Active contracts are defined as those for which requests for final payment have not been processed.)

Property turn-ins (Form 23) made considerable progress. At the beginning of the period, 18 contracts had been turned over to the Academy. Thirty-six more were added during the period, bringing the total to 54.

Safety committee meetings were held regularly each month, and pre-construction safety meetings were conducted with each new prime contractor.

Personnel exposures for the reporting period were 3,114 military man-days and 59,517 civilian man-hours.

There were no lost-time accidents for either military or civilian personnel. There was one minor (not chargeable) vehicle accident.

Six safety meetings were held with contractor employees and 10 with Agency personnel.

The contractors' dispensary, which had been located in the community center area, was moved to the site of the chapel construction during the period.

The previous report pointed out that the last parcel of land had been acquired and that the Colorado Land Acquisition Commission had been dissolved.

The current period saw the Agency receiving, processing and

forwarding to the Air Force Academy for permanent filing, final title opinions by the U. S. Attorney General on 19 parcels.

At the period ended, there were only three parcels for which final title opinions had not been received. No monetary consideration by the United States is involved in these, and all paper work for which the Agency is responsible had been completed.

Also handled during the period were 11 transactions involving easements, rights-of-way and clarifications of real estate details.

The Agency director is a regular member of the Academy Facilities Utilization Board. In this capacity, he participated in the screening of existing indigenous buildings for possible disposal in accordance with AFR 87-4.

As a result of the board's screening process, the Academy superintendent approved the disposal of several buildings which were beyond economical repair. Under special authority from Headquarters USAF, this Agency is the disposal agent (normally it is the Army Corps of Engineers) for Academy facilities.

An appropriate contract package will be advertised for bid and the buildings will be sold for their current value during the next reporting period.

CHAPTER XIX

REAL PROPERTY

Real Property

DECLASSIFIED

[redacted]

Military Construction Program, FY 1968

The major events during the reporting period, 1 July 1967 to 31 December 1967, had already in formulation of congressional actions on the FY 1968 Military Construction Program, and development and review of the FY 1969 Military Construction Program and its presentation to the Office Secretary of Defense and the Bureau of the Budget.

The Congress approved, by Public Law 90-110, 16 August 1967, the FY 1968 Military Construction Authorization Program in the amount of $797,395,000. On 16 September 1967, the Congress approved, by Public Law 90-473, the Military Construction Appropriations Program in the amount of $770,838,000.

For the FY 1969 Military Construction Program, a limitation was established on the dollar value of the line items which could be authorized by the major commands. In addition to the requirements for planning, design, research and development, and permanent supervision dollar requirements, the major commands were allowed to propose projects totaling $671,000,000. These projects, together with projects totaling [illegible] from the current active, inactive and projects [illegible] over from FY 1968, gave a total program of approximately $[illegible] billion for the regular forces and $[illegible] million for the reserve components. This programming included and emphasis on conversion of temporary and substandard facilities and replacement projects which had to be deferred or surveyed; (2) [illegible] which the

commands to limit submittals to actually required items backed by current programmed workload and (2) eliminate unnecessarily stringent or the lowest level of review possible.

General Preservation

A further improvement in programming techniques was introduced with the submittal of the FY 1961 Military Construction program which consisted of General Preservation. In July 1959 each major air command presented to the Military Construction Program Board (MCP Board) the content and adequacy of the programed construction requirements as developed by the command.

This proved to be of great value as it gave the MCP Board a clearer insight and understanding of the overall requirements. Programming with the "operator's" point of view and problems in mind has proven to be a sound approach in developing the most realistic statement of construction dollar requirements to meet operational commitments.

Significant progress in the program of the FY 1961 MCP are noted by the following table:

(Amounts in $ Millions)

Program Elements/Data	AF Program Supported	MCP Funds in AF FY 61 Budget	Total MCP Requests	MCP Authorized Program (Excluding Use of Funds Transfer)
Initial	Initial	1959	1960	1960 (Initial)
Submittal		(Not Done)		
15 July 59				
Initial Header 25 or more with MCP	725	725	845	640
Key Key Auth>P-61/4 Prog 14 Con (Revised) 15 Dec 59	725		845	640

(amounts in $ millions)

Program Stage/Date	AF Program Supported	MCP Funds in AF FY 61 Budget	Total MCP Proposed	New Authorization Portion of Total Program
Revised Work-up of new auth by OSD 11 Dec 59		725	788	695
Free of New Auth to BOB 17 Dec 59		725	791	648
Appr Program to OSD 20 Dec 59		735	791*	648**
			(*730 Appr Progr subm to OSD) (**661 for Auth only)	
Initial subm of new auth to OSD 15 Sep 59	F-61-3	1100	1231	1018
Revised subm of new auth to OSD 2 Nov 59	F-61-4	1000	1179	978

Force Structure Construction Estimates and Analysis

That AF weapons structure, which is known as the Objective Force of 15 May 1959, was revised twice during this period. For each revised force six a new construction estimate was prepared.

The Objective Force data also served as a basic input to the OSD Report, Report on Major Military Programs, MS-3A. This is a selected weapon system report which places together requirements of all funding areas to show the aggregate needed for each system. Revisions to the MS-3A were made as the Objective Force was modified.

Throughout this period almost continuous effort was required in programming exercises for attainable forces. The overriding spread

from FY 61-2 to FY 62-1. For all excluded a review system justification was made along with fund allocations consistent with budget program levels.

FY 1960 Cost Barracks Modernization Program

In the fall of 1959 a Barracks Modernization Program was developed from requirements identified by the commands earlier in the year. The objective of the program was to produce living quarters of a high standard for airmen at about half the cost of new construction.

The program which was developed provides for the modernization of 186 buildings containing quarters for 15,100 men. This program is proposed for accomplishment at a cost of $15.0 million from the O&M appropriation.

Chapel Improvement

Many chapels in the Air Force inventory are in need of improvement to meet current standards. Conversion of dollar ceilings in the Military Construction Programs has prevented the accomplishment of this needed work.

A plan is presently under study, and is expected to be implemented in the near future, to modernize chapel facilities. Interested agencies within the Air Staff are collaborating on the program which will probably be phased over a number of years.

Utilities

Utility systems at bases throughout the Air Force have been in the ground, in some instances, since World War II. The system of minor repair or isolated sections of these facilities has proven to be

less than the best solution. The past expenditure of Field Repair, Rehabilitation and Modification funds in support of the repair of antiquated utility systems has proven costly and in need of close evaluation.

Action has been taken to survey major air commands to arrive at a utilities modernization program. To date, fund requirements in the amount of $4.5 million have been identified for this purpose. The continued planned repair, replacement, and modernization of existing utility systems will, in the long run, be most beneficial to the Air Force.

Emergency Authorization

Section 303, Public Law 85-655, 20 August 1958, contained $17,900,000 of emergency authorization. During the period of this report construction projects totalling $3,067,000 were approved by congressional appropriation committees. The authorization expired on 10 August 1959.

Section 303(a), Public Law 86-149, 10 August 1959 contains $10,000,000 of emergency authorization. During the reporting period construction projects totalling $1,931,000 were approved by congressional appropriation committees. The authorization will expire on 30 September 1960.

A-35 Report

The bulk of the task of preparation of the annual report, "Information on Public Works and Improvement Programs" for the Bureau of the Budget was completed during this period. To cope with the increasingly detailed reporting requirements of BOB, refinements in job planning and work organization were effected which resulted in completion of a

more volunteers report without a commensurate increase in applicant resources.

Defense Systems

Army

The period 1 July 1959 to 31 December 1959 required continuous review and adjustment, by the Air Force, of the plans and programs for the Continental Aircraft Control & Warning System (SAGE, Frequency Diversity Radar, Gap Filler). This was necessary to bring the SAGE program into conformity with the Master Air Defense (MAD) Plan of the Secretary of Defense issued June 1959, and to reflect major budget adjustments in the procurement of Air Defense electronic equipment. The MAD Plan placed increased emphasis on the manned bomber threat, assumed that an attack through the southern approach to the United States would not be made, and assumed that active air battle in the interior of the United States would not be likely.

Secretary Sharp, on 16 December 1959, formally transmitted to OSD the revised Air Force Air Defense Program for approval. The OSD guidelines on the revised Air Defense Plan was not received by 31 December 1959. Primarily, a major deviation is required from OSD concerning the "hardened" SAGE Super CC program. OSD has informally approved implementation of the FY 1960 and prior buy in support of Frequency Diversity and Gap Filler programs.

Navy

The Air Force review of Air Defense revealed a considerable work being expended in "hardening" various probability and fixes for the SAGE system as the enemy water penetration threat from the USS Plan of air and land bombs and cruise missiles.

It is anticipated that a "high level" government decision is imminent on the SAGE Super Combat Center program. In the meantime, the Air Force on 11 December 1959 deleted the Albuquerque DC, 27th SOC and 33rd SOC. Thus, there remains seven each Hard SOC's in the U. S. and one each Hard SOC in Canada.

Frequency Diversity Radars

The NAD Plan had a drastic effect on the Frequency Diversity (FD) program and created an outage area in the North Central U. S. FD radar was eliminated from the outage area and necessitated rescheduling of FD radar in the North. This resulted in changes in the FY 1959 MCP program, changes in power requirements, and many power projects under construction were changed or cancelled. In addition, the FD portion of the FY 1960 MCP was almost completely revised.

Approximately 600 radar sites were involved in rescheduling the FD program. A conference, 16 October 1959, attended by ADC, AMC, ARDC, AFMDC, SAC, P. O., NOAA, NASA, NORAD and AIR Staff representatives accomplished the rescheduling task.

A two day electric power conference, September 1959, attended by ADC representatives, resulted in a decision to use electric power requirements for all Continental U. S. ADCM sites.

At the close of the period the Air Force decided to eliminate the FPS-6 and FPS-7 radar and reduce the number of FPS-27 and FPS-26 radar sites included in the FY 1960 and FY 1961 MCP are substantially final. A rescheduling conference is planned for February 1960 to "close-up" the FY 1961 program. Electric requirements should be reviewed in light of revised criteria.

Gap Fillers

The NAD Plan directed that approximately 200 additional gap fillers be provided north of the NORAD bases to exploit NORAD's low altitude capability. Studies were made to provide (a) gap fillers to the rear of NORAD bases affording NORAD capability to launch "over the shoulder" (b) twenty-two additional gap fillers recommended by NORAD; (c) 132 gap fillers for the U. S. and Canada rather than the 200 gap fillers directed by OSD. The final Air Force program for additional gap fillers is: Canada - 77; U. S. - 16.

Semi GADR

The Ground Air Transmitter Receiver (GADR) building program and curtailed by the NAD Plan since GADR radio was reduced in the austere GADR area. Studies were made to: place directional antennas at many sites; combine high powered amplifiers and directional antennas; alternate data link in the austere area; reprogram the FY 1960 MCP GADR's because of the austere area.

Presently Air Force has established a GADR schedule pertaining to the FY 60 and prior construction items. Recent cost increases of above 10% on certain GADR's were denied by Secretary of the Air Force for Financial Management, who indicated that he would be willing to consider a presentation on the entire GADR program covering cost increases and proposed reprogramming.

Bomarc

The proposed FY 1961 Military Construction Program contains an item in the amount of $[illegible] million in support of BOMARC. This item will provide

BOMARC IM-99B missile coverage for the geographical area in the vicinity of Charleston AFB (1st and 2nd Squadrons) and 3rd squadron coverage for this area in the vicinity of Travis AFB, Vandenberg AFB, Malmstrom AFB, Mitchell AFB, Duluth NAP, Minot AFB, Glasgow AFB, Malmstrom AFB and Niagara Falls NAP. This will complete the required 16 zone of interior installations as approved by the Air Defense Master Plan.

Ballistic Missiles & Space Systems

During this reporting period there were many different meetings dealing with total force and missile "mix" for the Atlas and Titan programs. A force "mix" of 13 Atlas squadrons and 14 Titan squadrons was approved and the FY-1961 MOP was based upon this force. A great portion of this time was used in getting information concerning cost estimates and program phasing proposals from the agencies involved and coordinating them through the Air Staff. This was a continuing effort as the program was being finalized in preparation for submittal to OSD and BOB.

The FY-61 MOP for Ballistic Missiles & Space Systems as submitted to OSD totaled $97.6 million and proposed facilities for four squadrons Titan, two squadrons Minuteman, one Tracking and Telemetering station for Atlas and one T&T Station for Bomarc plus R&D, test training and support facilities for these systems. Through reprogramming FY-60 and prior years residual authorization, the last four Atlas squadrons, estimated to cost $18 million, were proposed for construction through the use of funds available to the Air Force.

Real Estate Operations

Legislation Affecting Acquisition

The Department of the Air Force recommended that Section 409 be deleted from the proposed Military Construction Act of 1960. This Section would have authorized disposal of one facility and acquisition of a replacement facility using funds realized from the sale of the disposed facility. The purpose of this proposed authority was to encourage disposal of facilities located in high priced areas. The Department of the Air Force opposed inclusion of Section 409 on the grounds that the determination, if replacement was warranted, would require costly and time consuming studies, pressures would be exerted to dispose of installations in heavily populated areas resulting in possible compromise of military mission and in heavily populated areas, replacement costs would generally exceed the net return from the facility to be sold. One of the conditions precedent to the exercise of the authority was that the United States must realize a net return from the disposition of property that would justify its replacement. The recommendation of the Department of the Air Force was accepted by DOD, and Section 409 was deleted from the proposed Military Construction Act of 1960. 1/

The Department of the Air Force concurred in proposed legislation to add a new Section 2679 to Title 10, U. S. Code, to authorize the Secretary of each Military Department to enhance real

---

1/ Memo to ASD(I&L), 3 Dec 59, Subject: DOD 85-175 Proposed MCP Construction of 1960.

property and related personal property for other property if he determines that the exchange is in the best interests of the United States and the value of the property involved is not more than $50,000 and that no funds will be required for the acquisition of the property or for the construction of additional facilities on it. 2/

Title II Disposal Activities

During this reporting period there were 9 requisitions [illegible] before the Joint Service Committee and all were approved. These projects covered the following items:

a. **Transfer from Army to Air Force**

1,672.07 Acres - Original Cost $11,[illegible]

b. **Lease** - (1) [illegible] Acres @ $[illegible]

(2) [illegible] Acres @ $[illegible] per annum

c. **Use** - 1,389.00 Acres @ $[illegible]

Disposals

During this reporting period there were 11 disposal projects before the Joint Service Committee, and all projects were approved. These projects covered the following items:

a. Transfer from Air Force to Army - 1,917.00 Acres - $[illegible]

b. 1,360.00 Acres - Original Cost $[illegible]

Condemnations

Court hard of condemnation cases pertaining to 8,[illegible] acres in the amount 1,[illegible] acres in amounts of [illegible] during this period. In conjunction with condemnation cases, [illegible] brought up the question of the Air Force [illegible] portion of condemnation problems [illegible]

2/ Act of 1952, 10 U.S.C. [illegible]

in the courts. A new procedure 1/ was established requiring the Corps of Engineers, Department of the Army, to notify the Air Force immediately when settlement of a condemnation case is contemplated in an amount exceeding the funds deposited in the court for the taking of the property. The objective of the new procedure is to insure advanced notice to the Air Force of proposed settlements in order to permit timely action to make funds available and to ensure that the settlement is in the best interest of the Air Force.

<u>NORAD Land Acquisition</u>

Sites were selected for three NORAD installations in the northeastern part of the United States. The appropriate ARDC was authorized 2/ to issue Real Estate Directives upon receipt of funds. All 3 sites had an estimated cost of less than $25,000. As of 31 December 1959, funds were not released so real estate acquisition had not programed.

<u>SAGE Land Acquisitions</u>

Action was underway to select sites for several SAGE Super Combat Centers. A firm site for the 26th Air Division was selected at White-horse Mountain, New York, and a complaint in condemnation was filed which gave the Air Force possession of the land. Negotiations were underway with the National Park Service for the selected site, Kennesaw Mountain, for the 32nd Air Division near Atlanta, Georgia.

The Regional Civil Engineers were authorized to issue Real Estate Directives for acquisition of land for the SAGE Program (17 sites). 3/

1/ Letter to OCE, 30 Dec 59, Subject: Notification of Settlements in Condemnation Proceedings.

2/ Msg from ARDC-E (93275), dated 29 Nov 1959.

3/ Msg to AFRDC from ARDC-E - No. 307142, dtd 28 Oct 59.

the Bag Filter program (8 sites), and for other projects authorized by the FY 60 MCP where the estimated cost of the land did not exceed $25,000.

NORAD

Land was required for the underground facility for NORAD near Colorado Springs, Colorado. 6/ Land area was 121.49 acres in fee and 38.19 acres in easement at a total cost of $95,607.

FY 60 ICBM Program

Four additional Atlas Squadrons were included in the FY 60 MCP through reprogramming of available funds. Location for these additional squadrons were approved 7/ in December 1959 and Real Estate actions were initiated. Thirteen (13) separate acquisitions are involved.

Safety criteria for the Atlas and Titan systems were finalized. 8/ This created a requirement for restrictive easement acquisition of approximately 450 acres at each of 63 sites. Preparation of real estate requirements estimates for these acquisitions began in December 1959.

Additional land requirements were created by the Directorate of Communications decision to begin ICBM communication systems. If they cannot contract and operate communication systems are installed, it will be necessary for the Air Force to acquire right-of-way easements to support this construction. Each 1 x 3 mile easement will require

---

6/ Initiation of Action, 1 Dec 59, and Execution 6 Jan 60.
7/ Approved by Atlas Committee, 22 Dec 59.
8/ See Ltr HQ, ARDC-BMD, [illegible] 1960.

approximately 500 miles of easement and access x 3 equaling approximately 175 miles. The required permanent right-of-way will be 15 feet in width. Also temporary easements will be required for construction purposes. Preparation of Real Estate Planning Reports and other preliminary Real Estate work has undertaken in Depth.

During this time period, approximately 25 coordination actions and 10 Congressional inquiries on ICBM projects were handled.

Retention Program (1959)

In accordance with DOD Directive No. 4165.20 dated 27 August 1958 and DOD Instructions No. 4165.14 dated 28 August 1958, Subject: Utilization and Retention of Real Property, the Air Force is required to survey real property holdings under its control and jurisdiction and report to OSD as to surplus and close conditions are related. This report was due in 1959 and the second, third, fourth and fifth increments of this report covering ARC, TAC, PACAF, SAC, ADOC, USAFE, ADC, AAC, Air Force Bases were submitted to this headquarters in July and August 1959. These reports were reviewed by this directorate and the Air Force Military Construction Program Panel of the Air Force Military Construction Board. The second, third, fourth and fifth increments of the report containing the surveys, conclusions and recommendations were forwarded to DOD (PA) 2/

DOD Memorandum dated 2 March 1959, Subject: Utilization and Retention of Real Property, required the Air Force to submit an analysis concerning density or capability in relation to requirements and

---

2/ Summary Points to DATE dtd 25 Mar 59, 28 and 27 October, Subject: Retention of Real Property, Second, Third, Fourth and Fifth Increments.

current and proposed future utilization of the facilities under the control and jurisdiction of each Command reporting in the 1959 Utilization and Retention of Real Property. Requested analysis for ADC, SAC, TAC, AU, SAC, ARDC, MATS, ADC and AAC were submitted to DOD (M&I). These reports recommended the excessing of 10,294.97 acres at 44 various locations, 6 Air Force Bases, 9 Air Force Stations, 1 Annexed, 8 Air Force Ranges.

Inventory of Military Real Property

The annual publication of the Inventory of Military Real Property was submitted to the Department of Defense in accordance with DOD Directive 4165.14 on the date due. This suspense date was met even though all records maintained at this Headquarters were destroyed by fire and a complete submission had to be obtained from the major air commands. Approximately 200,000 records were submitted of which approximately 4% were rejected due to non-compliance with instructions. Of this 4%, corrections were made, insofar as possible, and were included in the published inventory. This resulted in one of the most accurate inventories published to date. 10/ A proposed new regulation covering the Inventory of Air Force Real Property was prepared in draft form for coordination. This proposed new system eliminates unnecessary information and consolidates the land and facilities in one form. Further, the instructions concerning the preparation and submission of the inventory will be contained in one regulation in lieu of the present three regulations (AFRs 78-26, 87-18 and 91-4). It is anticipated

---

10/ Air Force Inventory of Military Real Property, dated 30 June 1959

that the new system will be in effect in sufficient time to insure implementation by 30 June 1969.

Uniform Code of Accounts

Considerable progress has made in establishing a code of accounts - each facility identified by a basic code number - to integrate the maintenance, repair and operation cost accounting with programming, construction and inventory basic codes. This Directorate was represented on a panel which worked with the Comptroller's Office in the publication of a new cost accounting manual outlining the new code of accounts.

CHAPTER IV

CONSTRUCTION AND ENGINEERING

Construction & Engineering

CHAPTER IV

CONSTRUCTION AND ENGINEERING

MASTER PLANNING

Selection of sites for the PT-60 Atlas and Titan add-on squadrons was completed. Surveys were begun and initial sites selected for the "Minuteman" missile. Surveys are continuing to select locations for any increase in the present ICBM force as well as for the projected "Minuteman" force.

Approval of site locations was secured on the remaining NEMAD squadrons previously surveyed for the PT-60 MRV. It was necessary that the areas involved be resurveyed due to a change in the criteria for separation distance from possible targets.

Sites were selected and approval obtained on three additional divisions of the BAGE system. Surveys of the two remaining divisions were completed. One of these, the 30th Division, was resurveyed based on a "soft" configuration (unprotected structure above ground) as opposed to the original survey for a "hardened" configuration, or underground facility. Also, a survey was made of the lead sites in the area. Action toward securing approval of sites in the final two divisions was delayed pending a re-evaluation of the SAC Arrange plans for the central states, including the BAGE system.

The site selected for the 30th Division was shifted from Storm King Mt. to nearby Whitehorse Mt., N. Y. due to inability to obtain approval for use of Storm King Mt. from the New York, New Jersey, Palisades Interstate Park Commission.

Assistance and data was provided the National Aeronautics and Space Administration in its effort to locate a propulsion testing facility in the warm weather belt of the United States.

The Assistant Secretary of Defense (Properties and Installations) was advised of action taken by this headquarters to insure that all government-owned real estate is considered in site selection surveys.

A directive was forwarded to the major commands and the Air Force Regional Civil Engineers directing that full utilization be made of Corps of Engineers personnel and data in connection with site selection surveys and detailed siting of facilities.

In conjunction with the Plans Group (AFOCE-P) made planning studies showing the impact on air base installations of the time phased aircraft will be phased out or reduced due to employment of new weapon systems.

During this period a preliminary master plan for building APG-Area south EAS was developed with Department of Navy and staff officers of the Air Force. This plan represented the official position of the Department of Defense for the utilization of this property after the termination of flying activities in FY-63. It was forwarded to the Unit Rules 15 October for further processing in accordance with an executive request.

<u>Real Property and Plant Engineer Building</u>. The design for the demonstration buildings are being prepared as a result of review space and equipment requirements. Detailing designs for these designs at Eglin Area are presumed to be completed or nearly finished by February 1960. Advanced criteria for FY-60 planning purposes will be

[illegible] prior to [illegible] of the [illegible].

[illegible] during the [illegible] to provide for both [illegible] and [illegible] foundations and [illegible] is anticipated.

[illegible] Construction

[illegible] design criteria has been prepared and furnished to [illegible] for guidance in the preparation of a standard design for a [illegible] building facility. [illegible] standards for [illegible] [illegible] savings can be realized consistent with the [illegible] and life expectancy of the building. Consideration is being given to [illegible] design criteria [illegible] for the preparation of a [illegible] for a [illegible].

[illegible] Operations Center

The design and plans were completed and [illegible]. The plans and specifications for the underground excavation and [illegible] were completed in October [illegible]. The contract for the [illegible] was not advertised. [illegible]

[illegible]

[illegible] design criteria [illegible] were [illegible]

[illegible]

on review contractor determinations and equipment criteria furnished by DEW-PO. Final plans and specifications were initiated with completion, in part, before the end of 1959.4/

DEW LINE - RACTRON EXTENSION

Construction on the two Ice Cap Stations proceeded according to the plans and specifications with minor changes as necessary due to improved methods of operations and equipment. Construction progressed to the closed in stage. Project was closed down in late fall for winter months.5/

FREQUENCY DIVERSITY RADAR PROGRAM - FPS-27

Continuing development of various electronic components, introduction of new equipment, production modifications and realignment of current equipment necessitated a redesign of the supporting structure for the AN/FPS-27 radar. This change involved the addition of two story heights for a total of four floors.6/ 7/ 8/

Sanitary Engineering

The House and Senate Appropriations Committees approved emergency

---

4/ Directorate Field Trip Report: DEWLINE - Seaward Communications, 28 Sep 59 Hodgdon - AFOCE-EA.
5/ Corps of Engineers - Monthly Progress Report - DEW Part to Division Engineer - North Atlantic, 13 Nov 59, Paragraph 7 Construction.
6/ Sq CEMCA (RUEMAD) letter 21 Jul 59, Subj: Radar Set, AN/FPS-27, Standard Tower Design.
7/ Sq USAF (AFOAC-CD/S) 2nd Ind. 13 Aug 59, Subj: Radar Set AN/FPS-27 Standard Tower Design.
8/ AFOCE-EA message X 966 (AF IN 43683) 15 Sept 59.

Funding of Minot Water Supply Project for $1,500,000 and Clinton County Water Supply and Sewage Treatment for $1,087,000. Contract negotiations have been started with the City of Minot on the basis of the Air Force paying, on a reimbursable basis, its pro rata share in the new water development at Minot. This is estimated to result in a saving of about $5,000,000 from Air Force development of its own source. An independent water source is proposed for Clinton County AFB because of exorbitant rates and connection charges proposed by the current supplier, Dayton Power and Light Company. In November 1959, the Ohio Water Company bought out D.P.&L.'s water interest and Air Force negotiations are currently in progress with this company.

Holloman AFB requested $300,000 to initiate a program of water explorations. On-site investigation by sanitary engineering consultants of this Directorate resulted in recommendation for a program of exploration estimated not to cost more than $100,000. This will also be part of the general Air Force - Army joint investigation of water resources in the Tularosa Basin.

As a result of a visit to Perrin AFB and Cape Canaveral Missile Test Station, ARDC's request for secondary sewage treatment for these two sites was concurred in. It was recommended, however, that more efficient use be made of existing facilities and that present operating procedures at Canaveral be improved.

On-site investigation of Dulah MAP sewage treatment facilities was made by Sanitary engineering consultants. St. Paul District Engineer had estimated that expansion of plant or connection to Duluth

ATB program totaling $20.0 million was reduced to $15.0 million.

FY 1960 Availability and Apportionment

Availability for FY 1960 totaled $1,118.7 million, consisting of $631.9 million unobligated carryover, $776.8 million new NOA, $4.0 million NOA (Reserve) and $4.0 million estimate of reimbursements. Of the carryover it was determined that approximately $87 million were not required to complete FY 1959 and prior projects. These funds were deapportioned to MOB in the request for reapportionment based on certified obligations. This request was based on the information furnished by the construction agents per AFR 177-2, Military Construction Program and Cost Reporting, DOD: AF-DOB-C11, dated 17 June 1959. As of 31 December 1959, apportionments totaling $1,170 million were approved, which included preliminary reapportionment of $50.0 million and new apportionments of $770 million, and requests totaling $138.0 million were in process. This pending total included the deapportionment of $87 million of FY 1959 and prior unobligated balances and a request of $20.0 million for construction of four additional Atlas Squadrons which were added to the FY 1960 MCP. This deapportionment plus item deletions resulting from slippage and technological changes and contract savings made possible the absorption of the "Atlas Augmentation" program within available financial resources in the MCP. The authorization for this increased program was obtained by utilizing every available dollar in the prior single authorization packages, including the permissible cost increases allowed by each individual authorizing law.

Funds Released

During the first half of FY 1980 action was taken to release a part of $461 million to the Construction Agents. The unreleased funds at the end of this period totaled $193 million. This unreleased reserve was for $89 million of apportioned items unreleased (Bellman, Minuteman, NORAD, ADM and Radar Improvement, Super SAGE, Alaska Troposcatter, etc); $87 million being deapportioned; $17 million maintained in this Headquarters as a Contingency Reserve in lieu of providing the construction agents contingency accounts on each line item.

Contract Awards

Thru the first six months of this Fiscal Year projects totaling $278 million were placed under contract. This amount represents primarily award of items carried over from FY 1979, some of these are: AF Academy Chapel, NORAD at Adair, Paine, Travis, Vandenberg and Langley modernization, Hospitals at Beale, Glasgow, Minot, K. I. Sawyer, E. I. Eaug, Wurtsmith, Larson Titan Squadron; Fuels Utilities, etc. Some FY 1980 MCP major items were also awarded during this period, Ellsworth and F. E. Warren missile squadrons; Andrews apron and hangars; etc. This trend follows normal contract award experience, in which the first six months awards are normally previous years carryover projects.

Military Construction Finance and Cost Reporting (O & D 1 Reports)

On 23 December 1979 the O & D 1 Report for the period ending 30 June 1979 was completed and submitted to Director of Budget for transmittal to OMB/DOD. The request for reapportionment of unobligated funds was based on the data furnished by the Construction Agents for preparation

of this report. The completion of this report represented an estimate of 80,000 man and machine hours by this office, Directorate of Statistical Services and the Construction Agents. In our transmittal letter it was suggested that OSD consider discontinuing this report since the expenditure of this much time and effort on a report which was both outdated upon receipt and of little use to the Department of the Air Force was seriously questioned. By using the MCS, AF C-46 Report and report of obligations the reapportionment request could be submitted more promptly, more accurately, and with a good deal less effort.

Obligation and Expenditure Limitations

The Air Force Military Construction Appropriation is subject to an obligation/expenditure limitation during both FY 1960 and FY 1961 of $903/$1,080 million and $689/$775 millions respectively. The effect of these ceilings are presently being studied. Obligation ceiling does not appear to present any immediate problem. Review of expenditure projections result in estimates of $1,040 million and $946 million for FY 1960 and 1961, respectively, which exceed Air Force ceilings. To offset these potential overruns may require delay or deferral of award of the nonessential portions of the FY 1960 and 1961 MCPs.

Overseas Construction

A summary of the FY 60 and prior Military Construction Programs in overseas areas at the end of this period is as follows (amounts in $ million):

INCREMENT	CURRENT PROG.	OPERATION PROG.
Previously Compl.	967.8	967.8
Active (FY 59 & Prior Funds)	217.0	217.0
Active (FY 60 Funds)	37.1	34.1
Total	1,221.9	1,219.1

Total value contract awards: 1,161.1

Total value work in place: 1,129.8

As indicated in the history for the preceding period, the FY 60 MAP Appropriations Plan submitted to the Congress included $47.3 million for overseas projects. Deletions by the Appropriations Committees and later additional deletions by the Air Force reduced that amount as follows (programed amounts in $ million):

INCREMENT	PRIOR AUTH.	NEW AUTH.	TOTAL
Gross Total	7.3	40.0	47.3
Deleted by Cong.	6.6	15.6	22.2
Deleted by AF	—	1.2	1.2
Net Total	0.7	22.5	23.2

Included in the portion deleted by the Congress was $15.9 million for TM-76B facilities.

In addition to the MCP work outlined above, the following construction projects under the FY 60 and Prior Military Assistance Program were monitored:

COUNTRY	PROJECT	AMOUNT (US$)	REMARKS
Taiwan	Tang Quan AF	12,196,000	Total amount [illegible]. All projects substantially complete.

			Final increment of $[illegible] is for change orders, final inspection, etc.
Iran	Dezful	681,900	Change order to and administration of prior program.
Korea	Gelb	160,948	Change orders to and administration of prior program.
Thailand	Lahkli Korat Koke Kathien	103,175	Presently design only. Total requirement including construction $2,700,000 (U.S.). Balance - local resources.
Saudi Arabia	Riyadh	9,300,00	Training facility program presented by MDA now waiting OSD for approval for inclusion in FY 60.
Pakistan	Sonnaglia AB	282,000	Program not yet approved.
Iran	Link Trainer	12,000	Program not yet approved.

The presently proposed FY 61 MAP totals $9.2 million (US) and covers eleven projects in eight countries.

TM-76 (MACE)

Histories for preceding periods contained problems in connection with the TM-76 (MACE). Additional developments and the current status follows:

(1) Construction contract for the TM-76A site at Bremen, Germany, was awarded in July 1959 and no major problems are known.

(2) Preliminary GFE for the TM-76A site site at Bonn, Germany, is

$2,890,000 as compared to programmed amount of $[illegible],000. If CWB based on bids is received in time to permit [illegible] approval and acquisition timely funding, contract award and POD are scheduled for 1 February and 31 May 1960, respectively. Due to the delays inherent in NATO contractual procedures, 31 May is the earliest POD possible of attainment. In view of that POD and the determination of SHAPE resulting from French redeployment, it became necessary to reschedule deployment of the first unit from February to 31 May 1960.

(3) The Congress failed to appropriate funds for the TM-76B hard site construction at Bitburg, Germany, and Kadena, Okinawa. The conference report of the Appropriations Committees did empower the Secretary of Defense to use available FY 60 and prior years funds for this purpose, subsequent to notifying the committees as to type, location and cost of facilities.

(4) Similar congressional action resulted in a reduced missile procurement program. Operational planning was accordingly adjusted to provide for a total of four TM-76B squadrons in lieu of two 60-MB groups originally planned. It is planned to construct facilities for one squadron each at Bitburg and Kadena under the current program and to construct facilities for one squadron at each area under the FY 61 MCP. The estimated cost of the facilities is (amounts in $ million):

	BITBURG	KADENA	TOTAL
FY 60	6.5	10.5	16.0
FY 61	6.0	11.0	17.0
TOTAL	12.5	21.5	34.0

therefore, recommended cancellation of the items. As a result of a staff study, the following actions were taken:

(1) FY 60, Operations Missile Center - Canceled.

(2) FY 59, Operational Facilities (not awarded) - Canceled.

(3) FY 59, Auto Maint. Shop (not awarded) - Canceled.

(4) FY 59, OM Station (under award, 1% complete) - Reduced in scope from five to one MRS site which will be used in support of fighter station.

Okinawa

Eight A/C Maintenance Docks were acquired for Kadena AB under prior years programs. These are presently at Kadena, have not been erected, and are deteriorating while in storage. Revisions to operational planning have resulted in different requirements and a study has been made to determine the most feasible utilization of the docks. It is now tentatively planned to erect two docks each at Naha and Yachimata (using F-341 funds), erect three at Naha under the FY 61 MCP, and to use the remaining one for support facilities for the TM-76B project at Kadena. If more than one can be used for this purpose, some procurement as well as erection may be accomplished under the FY 61 MCP for Naha.

Pakistan

Inquiry was received from the U. S. Embassy at Pakistan 14/ concerning payment for land acquired by Pakistan Government for Project Badaber. The payments in question are in three categories, viz., (a) $[illegible] and five payment for exclusive use of 50 acres, (b) annual rental

14/ Embassy cables 898 and 941, dtd 14 and 28 Oct 59 respectively.

of $171,640 for 811 acres in easement; (c) $73,394 for one-time payment, for exclusive use of 60 acres for family housing. The matter was presented to the AF General Counsel. Based on their findings, the following determinations were made and/or actions taken:

(a) $80,000 for 68 acres sale was will be paid for from MCP funds and the funding is being increased to provide that amount.

(b) $171,640 per annum for 811 acres in easement will be provided by using service (ATES) from O&M funds.

(c) $73,394 for 60 acres sale was for family housing will be provided from Surplus Commodity funds. The action has not yet been completed by Family Housing Branch. After receipt of funds as determined above, USAFE will reimburse Pakistan Government.

Ivo Jima

As the result of mission changes, PACAF requested that all activity at Ivo Jima be canceled and the installation be placed in care-taker status. FY 60 items had not been funded and they were deleted. Defunding of FY 59 items was held in abeyance pending determination of requirements for a multi-purpose corrosion facility, planned for construction from FY 59 resources. As of the end of this reporting period, the matter was not finalized.

Air Reserve Forces

The FY-1960 Military Construction Program for Reserve Forces was reduced to $4,000,000 of which $3,800,000 is allocated for construction and $200,000 for design of the FY 1961 Military Construction Program. Continental Air Command, due to limited funds, met with the field representatives of the USAF and reconsidered their requirements. As a result, the required facilities were re-defined and current working

estimates established which will permit advertising of the entire program. The ensuing delay of possibly two months apparently will have no serious effect on either beneficial occupancy or completion of the projects. The amount of the FY-1961 Military Construction Program initially proposed at $9,673,000, at eleven Air Force Bases and three Naval Air Stations has been reduced to $4,624,000 at seven Air Force Bases and two Naval Air Stations.

Andrews Air Force Base

The entire FY-1959 Air Force Military Construction Program at Andrews Air Force Base has been placed under contract except for the heating plant which has been combined with the FY-1960 Military Construction Program addition. Bids for this combined heating facility have been opened and the award is anticipated early in January 1960. Approach lighting, barrier gauge runway lighting, runway and high speed taxiway center-line lighting, and Navaids are being implemented into the FY 1959 Military Construction Program from savings effected from favorable awards. It is anticipated that when all of the FY-1960 Military Construction Program has been awarded, a savings of approximately $2,000,000 will be effected when compared with the appropriated amount of $16,980,000. Approximately $12,000,000 of the Navy's $15,000,000 FY 1959 and FY-1960 Military Construction Program has been placed under contract and the balance will be placed under contract as soon as design and funds become available.

Dental Engineering Team Facility at Wright-Patterson Air Force Base

This facility, authorized under P.L. 310/83rd Congress and P.L. 155/86th

Congress, has been under construction since October 1968, and is now reported 85% physically completed. An additional $223,000 has been provided on this facility to permit the installing of all fabricated components. This will bring this facility to a logical cut-off point where the environmental control and material handling systems can be added if funds are released. There has been no further development on the release of the $5.6 million required for July 1969.

Solar Furnace at Holloman Air Force Base

Funds for a solar furnace of large size were given at Holloman Air Force Base were appropriated under Public Law 89-692 in the amount of $4,401,000. The Pittsburgh Des Moines Steel Company has the contract for the design of the furnace proper. Bruce Company has the contract for the design of support facilities. Subsequent to the initiation of design, the development of additional criteria has resulted in an increase in the estimated cost to $7,247,000 based upon nearly completed plans. The National Science Foundation was requested to make an appraisal of the scientific requirement for this facility from a broad national point-point. Their findings were that a solar furnace of the scope proposed under the current design is not too useful in the temperature research field and recommended consideration of the construction of several smaller type furnaces. A study is now under way in the Air Research and Development Command on a smaller solar furnace than originally proposed. This study will take into consideration the Army and Navy requirements and is expected to be completed in February 1969, at which time the proposed construction will be submitted to higher authority

for review.

Officers Quarters at Lather Air Force Base

The family-type bachelor officer quarters at Lather Air Force Base are 77% completed. These facilities have generated a requirement for additional water storage at an estimated cost of $200,000. This facility is now under design with contract award scheduled for early in 1960. These officer quarters are to be completed in February 1960.

Fiber Land Acquisition

A package program for acquisition of wing land tracts not exceeding $5,000, was included in Section 406, Public Law 985/84th Congress, 3 August 1956 and $200,000 was appropriated for this purpose. Section 406 was amended by Section 510 of Public Law 89/685, 30 August 1959, to increase the limitation to $25,000. As of January 1960, the total package program consisted of funds allocations of $20,530 - FY 1957; $36,420 - FY 1958; $84,990 - FY 1959; $100,000 - FY 1960. The major increase for FY 1959 were caused by acquisition of missile sites. The early requirement for these missile complexes necessitated immediate land acquisition which could be handled most expeditiously under this minor land package program.

Lake Entertient Improvement Project

The development of this lake facility, programmed in FY-1958, is scheduled to be started prior to 1 July 1960. The plans and specifications being prepared by the Army Corps Engineers are based on the Performance proposal which will provide for accomodations of the Para

available to the construction agency in order to expedite procurement of special items or equipment which require long procurement periods. The Ohio River Division of the Corps of Engineers is the construction agency for the Air Force on this facility.

Aircraft Maintenance Docks

A total of fifty-two docks are programed for the Zone of Interior in FY 1961. Authority has been received for the Air Force, through Air Materiel Command, to procure and erect forty and dock with all appurtenances to the five-foot line. The normal construction agency will design and construct the needed appurtenances outside the five-foot line. Twelve excess docks currently erected at Donaldson Air Force Base will be dismantled, transported, and reerected with all required supporting facilities by the normal construction agency at the following Air Force Bases: Blytheville - 2 each; Dunbar - 3 each; Eglin - 1 each; Hunter - 2 each; Turner - 2 each; and Wright-Patterson - 2 each. The four excess docks procured under the FY-1959 program for K. I. Sawyer Air Force Base, but not erected, will be delivered by the supplier and erected at Sewart Air Force Base under the FY-1960 authorization.

Depot Facilities

The Heater Calibration Facilities and the Aerial Gunnery Range Camera Pod in the FY-1961 Military Construction Program will be provided through modification of an existing industrial plant constructed by the Air Force for the heavy press program to fabricate aircraft frames at the

[illegible] squadrons, to be located at Malmstrom and Minot Air Force Bases, will be placed under contract early in 1960. Air Staff approval has been granted for four additional squadrons, facilities for which will be placed under contract in the first half of 1960. Final action of Secretary of Defense, Bureau of Budget, and Congressional approval has not been given however, it is anticipated in the near future.

1000 MIRV (WS-[illegible]) Project

The construction of miscellaneous facilities and modification of existing facilities to support the Research and Development, Test and Training Programs for this project at Patrick Air Force Base, Arnold Engineering Development Center, and Vandenberg Air Force Base continued without incident. The construction of facilities for the first two operational squadrons in the vicinity of Lowry Air Force Base continued on schedule with some minor construction problems. Very little, if any, delay in the construction has resulted from these problems or the steel strike. Facilities for two additional squadrons, the 3rd and 4th in the vicinity of Ellsworth Air Force Base and Larson Air Force Base, were placed under contract during the latter part of the period. The design of facilities for the 5th and 6th squadrons, to be located in the vicinity of Beale and Malmstrom Air Force Bases, is complete and construction contracts will be awarded in January and February 1960.

1000 Minuteman SM-80 Project

Construction contracts for Research and Development and Test Facilities at Patrick, Vandenberg, and Edwards Air Force Bases were awarded and construction was initiated during the period. These facilities are to

(5) Based on information furnished by Headquarters other staff offices, the Secretary of the Air Force (October 1959) furnished the Secretary of Defense necessary back-up data for his presentation to the Appropriations Committees. In his reply,[11] the Secretary of Defense authorized obligations up to $50 million for missile procurement, but with respect to the MCP requested that a comparative study of hard vs soft configuration be furnished him for further consideration. In his reply,[12] the Secretary of the Air Force furnished the requested data, but reiterated the Air Force position and intent of constructing hard facilities. Based on that reply, a request[13] for apportionment of MCP funds was initiated. As of the end of this reporting period, no action had been taken on that request.

France

Redeployment of tactical units from France necessitated an emergency review of pertinent construction items to determine the most economical course of action. As a result, construction of test stands at Chaumont and Toul was canceled; USAFE was requested to review status of school and water pump station at Chaumont and three ammo storage items at Toul to determine feasibility of cancellation. Based on that review, it was decided to complete the school, but delete the water pump station and ammo storage items. All items at Etain were so far advanced that no action was taken.

Korea

The FY 60 MCP contains one, and the FY 59 MCP, three items for support of TM-61C (MATADOR) at Osan, Korea. Current programming documents indicate limited utilization of that site. The Military Construction Panel,

11/ Memo, dtd 6 Nov 59, subject: "MATADOR"
12/ Memo, dtd 23 Nov 59, subject: "MATADOR"
13/ Submission No. AF-71-60-14, dtd 27 Nov 59.

be considered as interested facilities, however, the Director of Engineering was given certain responsibilities relative to the rehabilitation of existing facilities and construction of new facilities for this installation.

[illegible] Projects:

The construction of facilities to support these projects continued without any problems. In fact, most facilities currently authorized for construction are complete or nearing completion. A firm program of facilities for FY 1960 to support these projects is being prepared and scheduled for submittal to Office, Secretary of Defense (Advanced Research Projects Agency) early in 1960. Efforts to get ARPA to release the FY 1960 funds to the Air Force have failed. The ARPA position remains that the funds will be released only upon approval of a firm facilities program, or in case of an emergency, upon the ARPA approval of individual projects. It has been agreed that funding will be through headquarters USAF by an ARPA grant rather than to the Air Research and Development Command as was done earlier.

[illegible] (QU-79) and [illegible] (QU-78) Projects:

Facilities for training purposes and for the operational squadrons in the United Kingdom for the two projects are all in place and most of them are in use. The design of facilities to support two Jupiter squadrons in Italy was completed and construction was initiated or will be initiated early in 1960. All agreements have been finalized, the financing arrangements have been completed and design and construction arrangements

have been worked out whereby the Corps of Engineers and Air Force Regional Civil Engineer will provide such technical assistance as is required to ensure usable facilities. Agreements have been completed for the 3rd Jupiter squadron to be located in Turkey. Facilities criteria and requirements have been provided, siting has been completed, and the design of the facilities will be initiated early in 1960. The facilities are to be constructed under the Military Assistance Program.

Dark (SS 72) Project:

Facilities at Presque Isle Air Force Base for the Dark project are essentially complete. During the period a number of deficiencies and minor additional requirements in these facilities were reported. Most of these problems were resolved and those remaining are expected to be resolved in the near future.

Medium Range Air Force Projects:

Construction of the new Richard Bong Air Force Base was cancelled due to accelerated decrease in requirements for medium bomber bases. All the FY 1958 Supplemental Military Construction Program tanker dispersal beneficial occupancy dates were met during this period, except Clinton County Air Force Base. Practically all the alert facilities for both bombers and tankers were also completed.

Overseas Bases

All Fighter Interceptor Squadron facilities at Andersen Air Force Base, Guam, were cancelled. Disposal costs were not received by end of period. Construction for Strategic Air Command bases in the Northeast Area, Guam, Puerto Rico, Spain, and Morocco continued satisfactorily.

Air-to-Surface Missiles Projects:

Contracts were awarded at four additional bases scheduled for assigned GAM 77/78 missiles under FY-1959 Military Construction Program. Of the two remaining bases in the FY-1959 program, bids were opened on one but were deferred because DC contractor claimed the other being redesigned to eliminate GAM 78 requirements. Approval of deployment program of twenty-nine GAM 77 squadrons and twenty-two GAM 78 squadrons permitted reprogramming of FY 1960 Military Construction Program to provide facilities for their support.

B-52 and KC 135 Projects:

(a) Facilities at nine bases (Ramey, Beale, Minot, Grand Forks, Wright-Patterson, Dow, Blytheville, Westover, and Sheppard) were sufficiently completed for beneficial occupancy by B-52 and KC-135 squadrons. This brought to total of available B-52 bases to twenty-eight. Work continued on six other bases to be completed during 1960. Design was initiated and construction schedules were established for three bases (Kelly, Bowstead, Schilling) in the FY 1960 Military Construction Program which are to be converted from medium bomber to heavy bomber use. An Air Staff decision was rendered that MacDill Air Force Base would not be used for B-52 or KC-135 deployment. Military Construction Program items were cancelled prior to completion of design.

(b) Airfield pavements construction continued as the item receiving major emphasis. Design of heavy duty hilars in primary runways and taxi-ways at Fairchild, Ellsworth, and Seymour-Johnson Air Force Bases was authorized. The Fairchild project is to be unique inasmuch as prestressed

concrete will be a bid alternate to the standard design.

(c) Alert area facilities were completed and all bases occupied by heavy bomber and tanker squadrons except Grand Forks and Plattsburgh Air Force Bases.

(d) The only major slippage of construction scheduled occurred at Glasgow Air Force Base. This slippage was due to failure of the contractor to initiate the required activities prior to the winter season. Shortage of steel due to the steel strike was a major factor causing this delay.

<u>BOMARC</u>

Of the four BOMARC bases in the FY 58 MCP, Kingsley and Suffolk Co. are completed and operational. Construction is completed at Otis and Dow. The status of the FY 59 MCP is as follows: At Langley AFB, the IM-99A SM launching shelter complex is 65% complete. Construction on the IM-99B SM launching shelter segregation is approximately 30% complete. Construction is well under way on the first IM-99B/launching shelter complexes at 7 other sites with completion progress as follows: Langley 65%, Kinchelow 30%, Duluth 55%, Niagara Falls 37%, Truax 25%, Altus 38%, Travis 5% and Vandenberg 10%. Three additional sites of 28 IM-99B launching shelters are under design for locations near Glasgow, Malmstrom and Minot Air Force Bases. Construction is scheduled to start in the Spring of 1960. These three sites were originally programed for the FY 60 MCP, however, no authorization or appropriation was required since sufficient [illegible] remained in the FY 59 program. The proposed FY 61 MCP

contains an Item in Lump Sum, $96,000,000 to provide 26 IM-99B shelters augmentations at Kinchloe, Duluth, Niagara Falls, Paine, Adair, Travis, Vandenberg, Malmstrom, Minot and Glasgow and a new 56 IM-99B launcher site in the vicinity of Charleston AFB, South Carolina.

The study of BOMARC survivability under an IOBM attack was completed by Boeing and presented to this headquarters on 17 July 1959. If a decision had been made at that time to harden, hardened facilities could have been designed and built for the initial increment of 26 shelters at Malmstrom, Glasgow, Minot and Charleston and for the fourteen augmentations in time to meet the established operational dates. Instead, decision was made to develop the study further. The amplified study was presented to this headquarters on 24-25 November 1959. As a result, the Air Defense Panel was prepared to recommend to the Air Staff that BOMARC facilities be hardened according to the following plan:

(a) Build 26 hard shelters at all sixteen sites, with no subsequent augmentation. This in itself would augment the five IM-99A sites.

(b) Cancel construction of the missile area facilities at Paine, Adair, Travis, Vandenberg and perhaps Langley to recoup as much P-300 money as possible.

(c) Complete IM-99B facilities at Niagara, Kinchloe and Duluth and perhaps Langley. The missiles would then be transferred from the sets to the hard shelters upon completion of hardened construction.

This plan would reduce the total P-400 fund requirement from $1,200 million to $890 million and increase the total P-300 requirement from $181.5 million to $199.5 million. Although a vertical silo shelter would

be cheaper than the horizontal site recommended by Boeing and the Navy after consideration of the vertical shortage and firing concept with the Boeing two years ago, the weapon system and associated hardware have been developed on the horizontal storage basis and it is the AMSC and Boeing position that a change now would jeopardize an already critical IR-99A development program. The Air Defense Panel plan is scheduled for presentation to the Weapons Board. Further developments will follow the Board presentation.

MCON

FY 1960 MCP authorization and appropriations were received in the amount of $11,496,000 to complete MCON. The FY 60 program involved the available total authorization to $[illegible],496,000 and total appropriation to $15,[illegible],000.

Thule Detection Site

Construction funding was increased to $100,000,000 for this site. The increase of $6,000,000 was to cover construction of emergency power supply at the technical site. An apparent slippage in construction schedule was averted and major technical facilities were turned over for equipment installation essentially on schedule. Construction was 90% complete excluding the emergency power supply which was scheduled for construction in CY 1960.

Clear Detection Site

Construction funding was increased from $70,500,000 to $93,500,000 reflecting cost of additional facilities in the FY 60 MCP. An Alaska-wide carpenter strike during most of the construction season delayed work on the power plant and the personnel support facilities. Work continued on the major technical facilities as an exception to the strike. Special procedures are to be expedited to meet the power supply requirements and

to provide an earlier completion of the power plant. Overall, progress was 39% complete excluding the FY 60 work which was scheduled for FY 60 award.

United Kingdom Site

Informal discussions between USAF and RAF continued with the objective of early implementation and joint financing. Formal negotiations were expected to be concluded early in CY 1960. The site at Fylingdales, England was selected. Possibility of U.S. financed design prior to completion of negotiations was not favorably considered by the Secretary of the Air Force.

Seaward Communications

Construction contracts were awarded for facilities along the PEGIVAULT communications route. Except at Melville where work was more readily accessible, activity was limited to procurement and delivery of materials and establishment of contractor camps. $7,772,000 was the estimated cost of the work placed under contract by ADC. Work on the cable terminals at Thule and Cape Dyer was completed by the Corps of Engineers. OSD was considering an AF request that ADC be permitted to construct the radio terminal building at Cape Dyer. $1,430,000 was available to the Corps of Engineers for communications construction in Alaska. Designs were virtually completed with construction contracts scheduled for award early in CY 60. Funding was in excess of field estimates of known work. A change in routing was adopted by the systems engineer late in the reporting period. This change involved a new microwave link between Fairy Dam and Nakhakuen Lake to by-pass existing White Alice routes. Source of construction authorization and funds was under consideration at time end of the reporting

period.

Central Monitoring Facility

A change in equipment was adopted which negated the need for any construction. Completed design for an addition to the NORAD COC was shelved.

ADAM Overhead

DEW LINE (MAIN) - Design of six (6) all freight/passenger terminals for the main stations was completed during the period. The proposed FY 61 MCP contains approximately $2 million worth of items for various DEW stations. All of this construction will be accomplished directly by the Air Force through ADM.

DEW LINE (Eastern Extension)

Construction work planned for the 1959 season was completed as scheduled. The extension is now 83% complete. Construction will be completed at all sites during the 1960 season. During the 1959 season, about 13,000 tons of material were airlifted from Sondrestrom AB by air and equipped C-130 to the sites on the Greenland Icecap. Current working estimate for construction is $56.5 million.

Alaska ADAM

Work on the composite buildings at Kperrvuk and Indian Mountain was interrupted by the carpenters strike and, as a result, will not be completed until the end of the 1960 season. Design of FY 60 items has started. Plans have been made to modify existing 100 KW Gambell diesels instead of building new power plants on these ADAM stations.

Alaska Integrated Communication System

The Nome system was completed in 1958. Water supply improvements at five sites were completed this year. The Anchorage to Point and Bluegrass, an extension of communications out the Aleutian chain, are both

under design.

Canada ADES

Because in radar deployment during the period contractor a considerable measure of confusion to this program. The proposed FY 61 MCP contains additional radar towers and gap fillers. DOD agreed to allow the air force to continue doing ADES construction work in Canada already through ADC.

ADES Zone of Interior

During the period MCP construction was placed under contract in the total amount of $19,599,139 as follows:

Pakiska	$1,178,031
Kaliska	3,790,464
Gay Willer	930
Radar Improvement	13,200,000
Kinsella Heater	298,750
BADS	0
Bills etc (Ashbra Road)	1,111,000
	$19,599,139

ADES construction conferences were held with AFCEE's, ADC Headquarters Jakarlan, USACE, BADS F. D. and ADCIS during the period 26 October thru 27 November. These conferences were to review design and construction schedules for all FY 60 and prior items not completed. Schedules were adjusted to meet equipment delivery dates and ADC requirements.

Fairbanks Program (DOD)

Design and construction was completed for facilities supporting

basic construction. Items costing $1,177,011 were placed under contract during the period of this report. 1400 facilities were programed in FY 1959 MCP for 10 locations, all appropriation and funding were obtained within the FY 1959 Base Improvement Program Package Program. Minor Base Improvement Program is approximately 80% complete and 1400 auxiliary facilities, (Base Hospitals, Additions, Telephone and Radio Facilities,) are about 50% complete. There are 60+ Sites in the current program with gross construction of $57.2 million current at all locations except Lompoc, which required existing Air Force Electronic interference with existing facilities. The resiting and various problems at Lompoc have been resolved and construction should get underway during April or May 1960. The FY 60 program may accrete to $2,000,000 due to a comprehensive reprogramming of the plans requirements at locations. Funding of the program has been deferred due to the reprogramming. It is anticipated that FY 60 funds will not be released to the construction agency until late in January or early in February 1960. The tentative FY 61 program consisting of 1400's operational bldgs, water, sewer, utilities, recreation and family housing items amounts to approximately $1,500,000.

Holding (7000)

Facilities costing $130.5 million for seventy five (75) Sites have been programed up through FY 1960 MCP, of which $98.5 million have been completed and turned to Laundry. Basic construction is approximately 95% complete, while the "B" and "BM" sites are practically 100% complete. Contract awards for this period amounted to $3,790,444 which did not

include any FY 1960 facilities. During this period the programmed amount of the FY 1960 MCP was reduced from $10,055,000 to $6,699,000 by the deletion of 16 GAEM facilities and 2 operations facilities. This brought construction requirements in consonance with the revised Master Air Defense (MAD) Plan. FY 60 funding has been limited to $8,157,000 due to lack of firm CWE's caused by numerous MAD Plan revisions of construction requirements. The entire GAEM program is currently under study for reprogramming. Construction requirements for retrofitting of the Air conditioning for the Manual and Automatic sections of the operations facilities have been firmed up and design at all locations is practically completed. Construction is now underway at approximately 70% of the sites. Balance of sites are scheduled for construction awards by 15 March 1960.

GAP Filler Program (FOUO)

The FY 1959 and prior years MCP program contains a total of 177 sites. The entire FY 59 program is now under contract except approximately $20,000 in utility items to be negotiated by ADC. There are 134 fiscally completed sites with 43 sites currently under construction at a total cost of $3,063,915. The estimated cost of the entire FY 59 and prior years program is $12,940,065. Nine (9) of the initial nineteen (19) sites contained in the FY 60 program were deleted with subsequent deletion of 2 more sites to conform with revised ADC requirements. An apportionment request in amount of $900,000 to permit funding of the remaining 8 sites has been forwarded to AF Comptroller and it is expected that these sites will be funded by mid February 1960. The Form 161A dated 15 Sept 1959 submitted a list of 34 Gap Fillers with a CWE of $4,300,000 for the proposed FY 61 program. However, the forecast is that when presented to the

Consequently this program will have been greatly reduced, perhaps by more as 75%.

Radar Improvement (RAID)

The FY 59 MCP contained a package line item for $100.0 Million entitled: Various Locations-Radar Improvement. This item is for new and improved radars for additional electric power and for land as required. FY 59 MCP funds in the amount $45.8M have been apportioned and released to the field, and of this, a total of $13.8M was placed under contract during this reporting period, making a total of $35.5M under contract to date. Thirty-five of the forty-four radar towers authorized in FY 59 MCP were under contract at the close of the period.

During the period a decision was made to establish an aerospace BMEWS area in the Southeastern part of the United States. This decision eliminated the improved radars from 34 MCAF sites. The overall revised Radar Improvement Program has not yet been finalized, and it was under study throughout the reporting period, and various changes continue to be made. Although not yet firm, the following is considered to be the best estimate available of MCP tower requirements:

AF/FR	FY 59	FY 60	FY 61	FY 62	FY 63	TOTAL
	*13(AMC)					
I	8	5	—	—	—	26
24	1	5	—	—	—	12
35	10	—	—	—	—	10
37	3	1	11	21	—	36
38	1	—	—	—	—	1
TOTALS	*13(AMC) 39	11	11	21	—	84
26	35	16	16	21	25	49

* AMC Towers-Erected by CONUS

Redeployment of the radars in general remains the baseline for the FY 59 radars, however, the major portion of the FY 60 radars have been relocated and therefore require redesign.

NAVAP Control Centers (Middle Master) (FOM)

Funding action was completed on nine (9) of the ten (10) sites late in January 1959. The tenth site, Gibsboro, N. J. was finally cleared by Congressional Committees as an FY 59 MCP item 22 December 1959. Funding and award are forecast prior to 1 April 1960.

Design of foundations for three (3) towers at the Chicago site (Arlington Heights) is nearly complete and award is forecast for March 1960.

The Heating Plant at Detroit (Selfridge) was awarded in December 1959 and the Headquarters Squadron building at Pittsburgh (Oakdale) is scheduled for award in April 1960.

A problem on shielding in the ADAW Operations Building caused slippage of several months in ADAW at certain stations. Use of interim facilities has compensated for this slippage.

Semi-Automatic Ground Environment (SAGE)

As of 31 Dec 1959, the New York (Montauk), Boston (Stewart), Syracuse (Griffiss), Washington (Fort Lee), Bangor (Dyess), Detroit (Fort Custer), Chicago (Truax), Duluth (Duluth) and Grand Forks (Grand Forks) Air Defense Sectors were operational. Additionally Decision Centers in the 26th and 30th Air Defense Divisions were also operational. The Direction Center Facility at Richards-Gebaur was operational for personnel training and computer programming purposes. Construction of ADCS facilities

at eight (8) additional locations had been completed and accepted by the Air Defense Command. The completed sectors are as follows:

Sector	Station
Seattle	MacChord AFB
Portland	Camp Adair AFB
Sault Ste Marie	K. I. Sawyer AFB
Spokane	Larsen AFB
San Francisco	Beale AFB
Reno	Stead AFB
Great Falls	Malmstrom AFB
Los Angeles	Norton AFB

Construction of SAGE facilities was under way at the end of the period at the following stations:

Sector	Station (Location)
Minot	Minot AFB
Phoenix	Luke AFB
Sioux City	Sioux City AFB

During the latter part of this period, a comprehensive review of the proposed SAGE SOC Program was made by the Air Force and OSD. As a result of the review, an Air Force plan was developed which provides for seven (7) hardened Super Combat Centers in lieu of the nine (9) initially proposed. Under the plan all Air Defense Division, with exception of the 27th and 33rd Divisions, would have hardened SCCs and the proposed above ground soft facility for the Albuquerque Air Defense Sector would be deleted. At the end of the period, the Air Force plan had been officially transmitted to OSD for approval and action was taken to cancel out all work on the Albuquerque SAGE center. The revised SCC program had not been approved by OSD as of 31 December 1959. Design and siting studies previously initiated continued during the period under certain restrictions. As of the end of the period the primary design and construction effort was confined

to the development of standard plans and specifications for the Deep Underground BCC facility. Reprogramming action was taken on consonance with revised Air Force plan. Under the current program the chamber and tunnel excavation in the 32nd, 26th, 31st and 25th Air Defense Divisions will be carried out under the FY 59 MCP. One million three hundred thousand dollars in real estate is also included in the FY 59 program for a total BCC programmed amount of [illegible].1 million dollars. The FY 60 MCP includes provisions for the building phase of the BCC projects in the 32nd, 26th and 31st Air Divisions and chamber and tunnel excavation along with an initial increment of building construction in the 30th, 29th and 28th Air Divisions. In addition real estate in the amount of $1 million dollars is included. The FY 60 program totals $54.3 million dollars. Building construction funds for the 25th, 30th, and 28th Air Divisions in the amount of $49.7 million dollars are included in the FY 61 MCP.

NORAD COC

The ARDC Preliminary Study of the NORAD System and the Air Force proposal for implementing the project was forwarded to JCS for approval on 25 August 1959. Construction was scheduled as follows:

$10.0 M FY 60 Funds

	AWARD	BOD
Road	17 Sept 59	15 Nov 59
Excavation	1 Dec 59	1 Dec 60

$18.5 M FY 61 Funds

	AWARD	BOD
Building	1 Oct 60	1 Apr 62

On 11 September 1959, DDR authorized BMAT to proceed with the $10.5 M FY 60 construction. This constituted Phase 1 work which included the access road and excavation of the tunnels and the building chamber.

FY 60 funds in the amount of $1,400,000 were issued to the field on 22 September 1959 and on 23 September 1959 a contract for the road construction was awarded. Work was completed as scheduled with final acceptance on 9 December 1959. The excavation work was ready for advertisement on 26 October 1959, however, on 28 October 1959 the Under Secretary of the Air Force issued further obligations and issues of funds for BORAB construction. The construction status of this project remained inactive through 31 December 1959.

Some preliminary design work for the interior structure was completed by 15 December 1959, however, further progress is dependent upon criteria to be supplied by the System Contractor. ADDT was authorized to hire a System Contractor on 17 July 1959, however, this action became subject to various delays and interruptions and by 31 December 1959 a contractor had not yet been hired.

Further complications for this project developed when the $18.5 M for the interior building was deleted from the FY 61 MDP. These and problems in other funding areas coupled with the delay in hiring a System Contractor will necessitate development of a new schedule for BORAB. All of this above are stated based upon reports of the indeterminate status of the BORAB DOC.

CHAPTER V

FACILITIES SUPPORT

Facilities Support

CHAPTER V

FACILITIES SUPPORT

MAINTENANCE ACTIVITIES

The House Appropriations Committee conducted a detailed investigation of Vandenberg and Griffiss Air Force bases. Of primary interest was the use of O&M funds and new construction funds in the rehabilitation and new construction activities at Vandenberg AFB. A five-man investigating staff spent approximately five weeks at the base. The investigators informed Air Force representatives that findings and allegations resulting from the investigation will be made known only at the discretion of the Committee, probably during appropriations hearings.

Civil Engineer Training

The increasing complexity of systems requiring maintenance and the rapidly increasing number of such systems to be operated and maintained, required the study and implementation of accelerated operator-maintenance training programs. Civil Engineering inputs to training were studied and recommendations for higher skill levels and more realistic training programs were made to training organizations. Conferences and training courses were conducted in selected areas. Consultants and technicians from industry contributed to these training sessions at no charge to the Air Force.

O & M Support of Missile Facilities

Continuous follow-up actions were taken to insure the implementation of the Vice-Chief's policy letter of 12 May 1959. Certain of

these actions, representing policies of the Director of Civil Engineering, have turned up in conflict with the desired policies of the Deputy Chief of Staff for Materiel. The primary basis of this conflict is the control of the O & M function for Real Property Installed Equipment in direct support of missile operations. Efforts to resolve this conflict of interest between Civil Engineering and Materiel are currently underway and a firm Air Staff position should soon be developed. From this, specific policies and guidance will be developed and published to the appropriate commands.

Preventive Maintenance

The evaluation and review of proposed new Preventive Maintenance techniques and procedures is a continuing program. A new concept of P/M which provides positive controls is now under test at Bennett AFB, Texas. Preliminary evaluation indicates that these new procedures may be of sufficient economical value for Air Force-wide application. Final study and evaluation of this test program is scheduled for late February 1960.

DOD Family Housing Liaison Group (AF Participation)

DOD (P&I), by memorandum 12 May 1959, subject: "Design and Construction of Capehart Housing," established the Family Housing Liaison Group composed of representatives of the Army, Navy and Air Force. This group chaired by a representative of the Office, Assistant Secretary of Defense (P&I) developed Department of Defense policy statement concerning design and construction of family housing (16 July 1959). While this policy is not generally restrictive to the Air Force, there are provisions in which the Air Force is not in full accord.

This group continued to meet at the insistence of DOD (P&I) to develop formal DOD standards and criteria for maintenance and operation of family housing. Air Force representatives at these informal meetings continually protested the need for such policy pinpointing a specific part of the over-all Air Force operations and maintenance responsibility which is completely and specifically covered by existing DOD directives, and has been fully and successfully implemented by Air Force directives. Upon receipt by the Air Force of the DOD (P&I) policy statements, the Air Force formally and emphatically non-concurred in the requirement for such additional DOD policy.

Improved Fire Protection Engineering Features

Continuation of previously recorded emphasis on the establishment of sound fire protection engineering in building design and construction was reflected in further improvements in the standards of existing facilities, both in new construction and O & M programs. Much of this improvement was obtained through local and command approved projects in accordance with criteria established by Hq USAF. Criteria in general is based on safe building practices as recommended in professional fire protection building codes.

Fire Prevention

Competitive interest in the development of effective fire protection programs extended throughout the year. This was evidenced by the increasing numbers of entries in the National Fire Protection Association sponsored annual Fire Prevention contest. Grand Award in this contest for the calendar year 1959 was Myrtle Beach AFB, with

McChord AFB and Paine AFB, placing second and third, respectively. 180 Air Force installations submitted entries in this competed.

Fire Rescue Vehicle Development Program

Procurement action was initiated by AMC for the A/S 32F-4 8W, formerly called the C-12, for a limited number of these vehicles. This vehicle is the principal high capacity member of the projected new family of fire rescue vehicles. The other two members of this family MB-4, medium capacity, and the MB-3, small capacity, are completing their vehicle performance and functional testing.

Training

Arrangements were made with industry personnel to conduct a series of schools on pavement maintenance techniques. A total of 13 schools were conducted; ten in the Continental U. S. in FY 1979 and three overseas in FY 1980 with a total attendance of approximately 600 people. Arrangements were also made with the Corps of Engineers to conduct a series of schools to train AF personnel in the design and control of rigid and flexible pavement as it pertains to repair and maintenance procedures.

FAMILY HOUSING

The 1980 Military Construction Act, Public Law 96-128, included the following authorizations for Air Force family housing:

Title VIII (Capehart)	12,000 units @ 40 bases
Surplus Commodity	8,787 units @ 43 bases
Appropriated Fund	237 units @ 5 bases

The general provisions of the law contained several items affecting the Air Force family housing program. Among these were:

a. Exception of dental recovery projects from the requirement to be authorized by specific line item. However, a ceiling of 5,000 units for this program was placed on the Department of Defense through 30 June 1960.

b. Increase in the ceiling on leased housing units for the Alaska installations from 5,000 to 7,500 units.

c. Authority to accomplish previously authorized but unfunded appropriated fund projects in Puerto Rican Military Zones.

d. Permission to construct bachelor units for enlisted grade officers but to exceed 10% of total number of units.

e. Limitation on Department of Defense of 20,000 temporary units to be constructed for after 30 June 1959.

The Department of Defense, in September, allocated 6,024 units to the Air Force under the Congress ceiling imposed by Congress. Of this total, 3,474 were F-60 antiaircraft and 1,550 from pilot troop authorizations. The allocation was made in specific numbers of units for each locale.

The allocation was unacceptable to the Air Force. Several projects were already designed for a greater number than allocated to them, which could no longer be supported in the quantity allocated. Certain projects were badly needed, but not allocated. A review which these lines was made to DOD. In December, DOD issued a revised allocation of Department units. This included 7,170 units from F-60 Antiaircraft and 1,550 from pilot troops. Though still not satisfactory, the new allocation was more representative of actual Air Force requirements.

During hearings on the FY-60 appropriations bill the House Appropriations Committee directed that all overseas family housing projects when funded be cleared with the committees of both the House and Senate prior to commencing construction. This was done to give the Congressional committees closer control over overseas family housing programs.

The decision of the French Government concerning control of nuclear weapons resulted in re-deployment of forces in Europe. These moves affected the Surplus Commodity programs in the United Kingdom and France as projects were either deferred, reduced or cancelled. The revised programs are still not firm at the end of the reporting period.

Authority was requested to redistribute 280 Surplus Commodity authorizations for ACMW sites in Spain from Seven sites to fifty. DOD and DOS had limited each site to 40 units. The redistribution request was based on the fact that only 40 units per site would create insurmountable difficulties in split support requirements for dependents at each site. DOD informally denied the request and a formal reclaim is planned.

During the authorization hearings, the Senate Armed Services Committee imposed a 5-year limitation on the guarantee period for Rental Guaranty projects. Continuous efforts were made during the period to develop a Rental Guaranty program for both Okinawa and the Philippines.

Several proposals were received from and discussed with potential sponsors. However, these proposals involved a 10 to 12 year guarantee period, construction on government-owned land, with

utilities and administrative to be provided by the Government. The longer guarantee period was based on complete amortization of the project during the guarantee period. This was necessary to leave it no residual value for the housing after Air Force occupancy. A formal request was made to DOD for seek approval of the Congressional committees for an increase in the guaranteed period. The request was denied.

The Air Force was considering the possibility of obtaining housing in Germany and Japan through the Rental Guaranty Program.

USAFE requested 250 units for five locations in Germany. A study made by USAFE determined that such a program was feasible with a 75-year guarantee period. Air Force requirements are being revalidated prior to requesting approval of a program for leases in Germany.

Further housing in Japan through the Rotylis Guaranty program appears unobtainable; therefore, Rental Guaranty is being considered as a possible method of obtaining required family housing in that country. A feasibility study is being conducted by USAF.

After two presidential vetoes a modified Housing Act was signed on September 23, 1959 and became Public Law 86-372. It extended the Capehart housing program through 1 October 1961, increased Capehart mortgages to a maximum of 50 years, and permitted the inclusion of nondwelling facilities in Capehart financing.

This legislation also added a new section 810, to the National Housing Act intended to stimulate the construction of private off-base housing for sale or rental to military and essential civilian personnel employed at the base. It provided for liberalized mortgages and for military guaranteed occupancy rates in one industry

communities where the Federal Housing Administration finds the project lacks "economic soundness". Implementation of this program was being worked out in a series of inter-service conferences with DOD.

During this period the Air Force Family Housing Program for FY 61 was developed for inclusion in the Military Construction Authorization Program. Program requests submitted by the Major Commands included:

Title VIII (Capehart)	17,054 units @ 58 bases
Surplus Commodity	2,593 units @ 13 bases
Appropriated Fund	325 units @ 1 base
Rental Guaranty	1,100 units @ 3 bases

In September, the following program was submitted to DOD:

Title VIII	10,220 units @ 33 bases
Surplus Commodity	2,803 units @ 16 bases
Appropriated Fund	119 units @ 7 bases

Rental Guaranty projects were exempted from the requirement of authorizing legislation by Public law 86-149.

In September a review of the entire program in light of force structure changes and planned base utilization was conducted. As a result, the FY 61 program was reduced to the following:

Title VIII (Capehart)	6,255 units @ 19 bases
Surplus Commodity	1,103 units @ 9 bases
Appropriated Fund	37 units (rehab) @ 1 base

The Department of Defense after a review of the Air Force program approved the following:

Title VIII (Capehart)	1,475 units @ 5 bases
Surplus Commodity	208 units @ 3 bases
Appropriated Fund	37 units (rehab) @ 1 base

The great reduction in the program resulted from the following announced DOD policies:

a. No additional housing adjacent to large metropolitan areas.

b. Consideration of long-range requirements for ADC units.

c. No additional family housing for established air bases in Japan.

Air Force reclama to DOD for the reinstatement of 2,470 Capehart units, 1,095 Surplus Commodity units and 40 appropriated fund units was unsuccessful.

Lake starter projects for Brooks AFB (170 units) and Clark AFB, Philippines (400 units) were approved by DOD for inclusion in the program and the final program submitted to the BOB was as follows:

Title VIII (Capehart)	1,645 units @ 6 bases
Surplus Commodity	258 units @ 3 bases
Appropriated Funds	400 units @ 1 base 37 units (rehab) @ 1 base

The Bureau of the Budget announced that a new "pre-financing" policy for Surplus Commodity projects would be placed into effect with the FY 61 program. To date, under Public Law 765/83, the Air Force has acquired foreign currencies from the Commodity Credit Corporation to construct authorized family housing overseas. Repayment to the Commodity Credit Corporation is made with quarters allowances withheld from occupants of Surplus Commodity units. Briefly stated, the new policy would require the use of appropriations to purchase the necessary foreign currencies from Commodity Credit Corporation to fund the project. The full impact of this policy is being studied.

Housing Construction

The largest housing construction activity in the history of the Air Force occurred during this period. More houses were completed and brought into the inventory than during any previous period. Details on this performance follow; however, a note should be made of actual completions versus scheduled completions.

In the Capehart-Wherry program, which represents 90% of the housing activity of the Air Force, delivery of housing units is being accomplished ahead of established completion schedules. At the end of Calendar Year 1959, 58 projects totalling 29,620 units have been completed in their entirety in the Capehart-Wherry program; 35 projects comprising 16,763 units finished on schedule or ahead of schedule by a total of 1,292,335 housedays; 23 projects comprising 12,857 units finished behind schedule for a total of 925,710 house-days. Consequently, the over-all program shows a net of 366,625 house-days ahead of scheduled completion. This means that on the average, for the first 30,000 houses delivered, each house was delivered approximately 12 days ahead of scheduled completion.

The various programs authorized for the construction of family housing reached their highest point of input of units into the housing inventory. This input amounted to 95 houses per day, with a dollar value of approximately $1.6 million per day. Following is the status of completed units by program for this period:

Program	Houses Completed 1 Jul 59	Houses Completed 31 Dec 59	Net
Capehart-Wherry	16,365	29,820	13,455
Surplus Commodity	2,016	5,208	3,192
MCP	1,471	1,960	489
Total	19,852	36,988	17,136

In addition to the tremendous task of providing support to bases and commands in their efforts to properly perform inspection of the houses listed above prior to acceptance by the Air Force, the Construction Branch was also engaged in staff supervision and surveillance of the following housing units still in the construction phase as of 31 Dec 59:

	No. Units
Capehart-Wains	19,724
Surplus Commodity	745
MCP	1,996
Wherry R & I	7,112
Total	29,377

The Capehart-Wains program, which started in 1955, is the principal supplier of houses into the Air Force inventory. Since 1955, 58 projects totalling 29,880 units have been completed under this program. To properly judge the adequacy of these projects and determine their strong and weak points, to provide a basis for better design and construction, the USAF rating system was devised. By October 1959 a large number of projects had been rated. The rating system is based on a positive goal without regard to special conditions such as cost factors and geographical location. The system establishes a maximum possible score of 10 points, with quarter point increments. Of the projects rated during this period, the following received awards at the First Annual Housing Conference held in October 1959.

Base	Rating	Award
Homestead	8.75	Best in SE Area and Best in Entire Program
Langley	8.25	Best in East
Amarillo	8.5	Best in Southwest

Base	Rating	Award
Oxnard	8.25	Best in West
Mt Home	7.5	Best in Northern Tier Area
Chanute	8.0	Best in Midwest

Design

Efforts were continued to expand the program for use of residential type BOQs; however, despite poor bids received on an institutional type for Kinet AFB, ASD (P&I) again refused to consider use of the residential type. Studies were completed on maintenance data and will be used in subsequent efforts to obtain approval of expansion of this program.

Efforts to expand the inadequate quarters improvement program were continued. Criteria for improvements and a check list were forwarded to all commands requesting submission of detailed information concerning all projects which were considered to need rehabilitation. Detailed replies were received and check lists submitted. A firm program will be established based on this information.

Design directives were completed on 5 Capehart projects in the FY-60 program, totalling 1245 units. Progress as follows was made in the FY-60 program: Preliminary sketches were reviewed and approved for 7 projects totalling approximately 2536 units; preliminary plans, specifications and cost estimates were reviewed and approved for 8 projects totalling approximately 2674 units; and final plans, specifications and cost estimates were reviewed and approved for 9 projects totalling approximately 2024 units.

Work continued on presentation of plans, composition and cost breakdowns to ASD (P&I) for approval and funding of the Cherry

Rehabilitation and Improvement Program. All designs have approved and funding followed as funds became available. Three projects are completed, 9 are under construction and 7 have been advertised for bids. Of the total of 29 projects with final plans completed, funds for three projects totaling 8000 units were received and approved. Design directives were issued for 4 projects.

Preliminary studies were completed for design of two houses at the Air Academy. These included inspection of site and preparation of sketches for a house for the football coach and one for the Dean of Students.

Provision for inclusion of youth centers and enlargement utilities in Capehart projects was included in the latest housing bill. Questionnaires were sent to the field requesting information as to need for these facilities at bases where capehart projects are completed, under construction or under design. Youth center for Langley AFB project has been started.

Thrift Housing Acquisition Program

For the first half of FY 1960, a total of $45.9 million was allocated to the Air Force to finance the Thrift Housing Acquisition Program. Of this amount, approximately $24.0 million has been programmed for the repair and rehabilitation of thrift housing units at 16 projects. Since inception of this program, approximately $42.0 million has been allocated to the Air Force for the rehabilitation of 57 per cent of 31 of the 54 acquired thrift housing projects. Requests, totaling $13.0 million, to rehabilitate and improve units of six additional projects are currently pending in Office of the Secretary of Defense (Comptroller). Some projects are located at

Westover, Edwards, Hamilton, Bergstrom, Kessler and Perrin.

As of 30 December 1959, 11,180 Wherry units had been acquired, $3.6 million had been allocated by the Office of the Secretary of Defense (Comptroller) for acquisition of 1754 additional units, leaving 3350 units yet to be funded for acquisition and 628 units deferred.

Inadequate Quarters Program

The Bureau of Budget has disapproved an Air Force request for an apportionment of funds to rehabilitate and improve inadequate quarters (formerly referred to as "Shell" housing) at seven installations. The disapproval was on the basis that declaration of inadequacy under the provisions of Public Law 241 was improper and not in accordance with DOD criteria. A review has been submitted providing for the rehabilitation and improvement of "Shell" housing units at Andrews AFB on the basis of military necessity.

Contracts

More final closings occurred in this six-month period than any previous period from inception of the housing program. The peak month was October with 21 final closings, totalling 2643 and reflecting $41,973,779.

Statistics reflecting out-put as to preliminary and final closings follow:

Preliminary Closings

	Mortgagor-Builder Corporations	Units	Total $ Figures
Closed	43	3,245	$ 85,400,554

Final Closings

Closed	Mortgagor-Builder Corporations	Units	Total $ Figures
31 Dec 59	205	32,062	$499,814,264
1 Jul 59	115	19,501	297,206,470
Increase	90	12,561	$202,607,794

Housing Conference

The First Annual Housing Conference was conducted under the sponsorship of the Construction Branch, and consisted of two phases. The first, which was attended by base commanders, contracting officers and base civil engineers, consisted of a tour of the exhibits at the National Housing Center in the morning and an afternoon session in the Pentagon auditorium.

For the next two days, the conference was held at the National Housing Center. All elements of the housing cycle were discussed from programming thru design, construction contract administration, the warranty period, and maintenance. Two hundred and eighty-six (286) people attended the conference, and all felt that it was a most comprehensive coverage of the housing program and most worthwhile.

GLOSSARY

ADC	Air Defense Command
ADCW	Air Control and Warning
AE	Architect Engineer
AFIR	Air Force Installation Representative
AFIRO	Air Force Installations Representative Office
AFIR, SPR	Air Force Installations Representative South Pacific
AFR	Air Force Regulation
AFRCE	Air Force Regional Civil Engineer
AMB	Airways Modernization Board
ARDC	Air Research & Development Command
ASBCA	Armed Services Board of Contract Appeals
ATRC	Air Training Command
BAN	Budget Authorization Number
BOB	Bureau of Budget
BMEWS	Ballistic Missiles Early Warning System
BOQ	Bachelor Officer Quarters
CAMEL	Connecticut Aircraft Nuclear Engine Laboratory
CINC	Commander-in-Chief
CINCAL	Commander-in-Chief, Alaska
CINCUSAFE	Commander-in-Chief, United States Air Force in Europe
CINCUSAREUR	Commander-in-Chief, United States Army in Europe
CLAC	Colorado Land Acquisition Commission
COMMAC	Commander Airways & Air Communication
DEW	Distant Early Warning

DOD	Department of Defense
DCS/O	Deputy Chief of Staff, Operations
FHA	Federal Housing Authority
FNMA	Federal National Mortgage Corporation
FY	Fiscal Year
GSA	General Services Administration
HQ	Headquarters
ICBM	Intercontinental Ballistic Missile
IRBM	Intermediate Range Ballistic Missile
MATS	Military Air Transport Service
MCA	Military Construction Authorization
M&O	Manpower & Organization
MCP	Military Construction Program
NAS	Naval Air Station
NORAD	North American Air Defense
OASD (M&I)	Office, Assistant Secretary of Defense, Properties & Installations
OCE	Office, Corps of Engineers
O&M	Operation & Maintenance
OSD	Office, Secretary of Defense
PACAF	Pacific Air Forces
P&I	Properties & Installations
PL	Public Law
PRS	Pierced Steel Plank
SAC	Strategic Air Command
SAF	Secretary of the Air Force

SAGE	Semi-Automatic Ground Environment
SAFER	Special Assistant for Satellites
TCS	Tactical
USAF	United States Air Force
USAFA	United States Air Force Academy
USAFRIC	United States Army in Europe
UK	United Kingdom
USMA	United States Military Training Station