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REPORT COVER
GAO-348 (July 68)

REVIEW OF THE PROCEDURES OF CERTAIN COMMERCIAL CARRIERS FOR DETERMINING THE REASONABLENESS OF PHYSICIANS' CHARGES UNDER THE MEDICARE PROGRAM

Social Security Administration
Department of Health, Education,
and Welfare

UNITED STATES
GENERAL ACCOUNTING OFFICE

093054

October 29, 1970
(Date)

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

CIVIL DIVISION

October 29, 1970

Dear Mr. Ball:

Herewith is a report on our review of the procedures used by certain commercial carriers for determining the reasonableness of physicians' charges under the Medicare program. Our review was made at the office of the Aetna Life Insurance Company in Hartford, Connecticut, and Portland, Oregon; the Metropolitan Life Insurance Company in Utica, New York; and the Pan-American Life Insurance Company in New Orleans, Louisiana.

The report shows that, during the period covered by our review, these carriers were not following the criteria prescribed by the Social Security Administration (SSA) for evaluating the reasonableness of physicians' charges. The carriers were using widely varying methods to develop and apply customary and prevailing charge criteria.

As a result, neither SSA nor the carrier had adequate assurance that the amounts paid by the Medicare program for physicians' services were reasonable. Analysis of available data on the physicians' customary charges and the prevailing charges in the area for similar medical services shows that payments for physicians' services would have been reduced if the carriers had effectively applied the SSA criteria.

Since the completion of our review work, each of the carriers has made or promised to make certain changes in their claims processing procedures to minimize or prevent the deficiencies noted during our review. To help the carriers resolve their claims processing problems, SSA has also taken additional steps, including the assignment of onsite SSA representatives to each of the carriers.

We will consider the effectiveness of the carriers' revised procedures and SSA's efforts to improve the overall administration of the Medicare program in our subsequent reviews of the carriers' operations.

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We believe that the material presented in the report should be helpful to SSA in its efforts to achieve greater efficiency in the Medicare program.

Copies of this report are being sent today to the Assistant Secretary, Comptroller and the Director of the HEW Audit Agency.

Sincerely yours,

Fred D. Layton

Fred D. Layton
Assistant Director

Enclosure

Mr. Robert M. Ball
Commissioner of Social Security
Department of Health, Education,
and Welfare

Contents

CHAPTER 1

INTRODUCTION

The General Accounting Office reviewed the procedures used by certain commercial carriers for determining the reasonableness of physicians' charges under the Medicare program administered by the Social Security Administration (SSA), Department of Health, Education, and Welfare (HEW).

Our review was made at the offices of the Aetna Life Insurance Company (Aetna) in Hartford, Connecticut, and Portland, Oregon; the Metropolitan Life Insurance Company (Metropolitan) in Utica, New York; and the Pan-American Life Insurance Company (Pan-American) in New Orleans, Louisiana. The review included an examination of a random sample of claims processed and paid by these three carriers for physicians' services to determine whether the payments were made on the basis of reasonable charges, as defined by the SSA.

CHAPTER 2

DESCRIPTION OF PERTINENT FEATURES OF THE MEDICARE PROGRAM

Title XVIII of the Social Security Act (42 U.S.C. 1395), enacted on July 30, 1965, established the Medicare program, effective July 1, 1966, to provide persons age 65 and over with two basic forms of protection against the costs of health care. One form, designated as Hospital Insurance Benefits for the Aged (part A), covers inpatient hospital services and is financed by a special social security tax paid by employees and their employers and by self-employed persons.

The second form of protection, which is the subject of this report, is a voluntary program, designated as the Supplementary Medical Insurance Program for the Aged (part B) which covers physicians' services and a number of other medical and health benefits. Part B is financed by monthly premiums collected from each participating beneficiary who has elected to be covered by the program. Effective July 1, 1970, the monthly premium increased from $4.00 to $5.30. Premiums collected from enrollees are matched by an equal amount appropriated from general funds of the Federal Government.

CARRIERS' ROLE IN ADMINISTERING MEDICARE PROGRAM

Title XVIII of the Social Security Act authorizes the Secretary of HEW to enter into contracts with carriers to participate in the administration of benefits under part B of the Medicare program.

As of July 1, 1969, SSA, acting under delegation of authority from the Secretary of HEW, had entered into contracts with 33 Blue Shield organizations, 15 commercial insurance companies, and one State agency to act as carriers under part B.

The carriers' functions include (1) determining the rates and amounts of payments on a reasonable-charge basis, (2) determining the medical necessity of the services, and (3) receiving, disbursing and accounting for Medicare funds. During fiscal year 1969, carriers made part B benefit payments of about $1.5 billion, of which about 95 percent was for physicians' services. The carriers' administrative costs during this period, which were reimbursed by SSA, amounted to about $118 million.

Aetna serves as carrier for part B of the Medicare program in Alaska, Arizona, Hawaii, Oklahoma, Oregon, Nevada, and the Territory of Guam. Our review was limited to Aetna's operations in Oregon.

Metropolitan serves as carrier in Kentucky and for 32 counties in New York. Our review of this carrier's performance was limited to its Medicare operations in New York.

Pan-American has an agreement with the Secretary of HEW to serve as carrier in Louisiana only.

During fiscal years 1968 and 1969, these three carriers made part B Medicare payments in the areas of service covered by our review as follows.

Carrier	Benefit payments made (in millions) Fiscal year 1968	Fiscal year 1969
Aetna	$14.1	$15.2
Metropolitan	19.6	22.3
Pan-American	13.1	17.7

According to SSA, about 19.2 million persons were enrolled for supplementary medical insurance benefits as of July 1, 1969. As of that date, enrollment in the States or areas serviced by the carriers covered by our review was as follows: Louisiana--265,000; Oregon--202,000; and the area of New York State served by Metropolitan--335,000.

PAYMENTS FOR SERVICES ON THE BASIS OF REASONABLE CHARGES

The Congress, in establishing the Medicare program, provided that payments for physicians' services under part B be made on the basis of reasonable charges and that, in determining the reasonableness of charges, the customary charges made by the physician for his services, as well as the prevailing charges in the locality for similar services, be considered.

In regulations promulgated to implement the reasonable charge criteria set forth in the Medicare law, SSA has defined "customary charge" as the uniform amount which a physician or supplier charges in the vast majority of cases for a specific medical procedure or service.

SSA regulations define "prevailing charges" as those charges which fall within the range of charges most frequently and most widely used by physicians in a locality for a particular medical procedure or service. SSA regulations state also that, except for unusual circumstances, the upper limit of the range of prevailing charges represents an overall limitation on charges which should be accepted as reasonable for a given medical procedure or service.

CHAPTER 3

PROBLEMS IN CARRIERS' PROCEDURES FOR EVALUATING THE REASONABLENESS OF PHYSICIANS' CHARGES

Our examination of random samples of claims processed and paid by the three carriers included in our review and the procedures they used to determine the reasonableness of physicians' charges for services provided to Medicare beneficiaries showed that the carriers (1) were not following SSA criteria in evaluating the reasonableness of physicians' charges, and (2) were using widely varying methods to develop and apply customary and prevailing charge criteria.

Medicare law and SSA regulations provide that payments for physicians' services be made on the basis of reasonable charges and that, in determining reasonable charges, the customary charges made by the physician for his services as well as the prevailing charges in the locality for similar services be considered.

One carrier (Aetna) had developed data on physicians' customary charges and the prevailing charges in the area for similar services; however, the data were not being used effectively to determine the reasonableness of the amounts charged for services provided to Medicare beneficiaries. On the basis of our examination, we estimate that the benefit payments, made by Aetna during the 3-month period ending July 31, 1968, would have been reduced about $136,000 if Aetna had effectively applied SSA's reasonable charge criteria.

In accordance with its contract with SSA, the Aetna home office developed customary and prevailing charge profiles for physicians' services performed in Oregon. These profiles, which consisted primarily of computer tabulations of customary and prevailing charges in Oregon generally during a 6-month period, were provided to the Portland claims office. However, our review showed that the claims office generally did not use these tabulations to determine whether a physician's charges exceeded his customary charges or the prevailing charges in the area.

During the period covered by our sample, we found that the claims office relied primarily on a locally developed prevailing fee chart to determine whether the amounts claimed exceeded the prevailing charges in the area for similar services. If the fee chart did not list an amount as the prevailing charge for a particular service, the claims office used the California Relative Value Study, adopted by the California Medical Association in 1964, and dollar conversion factors to arrive at an amount which would be considered reasonable for the service provided. We found that the Aetna home office tabulations were consulted only when a charge exceeded the amount which would be allowed under the other procedures described above.

The Administrator of the Portland claims office advised us in February 1969 that a customary charge review had not been implemented because (1) the claims office had placed greater emphasis on reducing the backlog of claims than on making reasonable charge determinations, and (2) claims office personnel did not believe that the customary charge tabulations received from the home office were complete or accurate enough to serve as the basis for reducing claims.

The Administrator of the claims office advised us also that the prevailing charge tabulations developed by the home office were not used because of wide variations in the charge patterns indicated for some services, which led them to doubt the reliability of the data. Therefore, the claims office developed its own prevailing charge data by conducting local surveys and used that information for making reasonable charge determinations.

After we questioned the use of the locally developed data, Aetna officials at the Portland claims office advised us in March 1969 that they had compared the local survey data with the latest computer tabulation prepared by the home office, which had been received by the claims office in October 1968. Aetna officials stated that this comparison showed that the locally developed survey data was wrong in some instances, and that the data in the home office tabulations should be used for determining the reasonableness of physicians' charges.

Aetna officials advised us also that their claims processing procedures had been revised and that, beginning in the latter part of March 1969, the reasonableness of physicians' charges would be determined on the basis of the home office tabulations.

Two of the carriers (Metropolitan and Pan-American) evaluated the reasonableness of charges for physicians' services by applying a dollar conversion factor to numerical values assigned to the services in tables of relative values prepared by State medical associations. These tables assign a numerical value to the various medical services performed by physicians and the value of each varies in proportion to its complexity.

Although our review of a sample of claims processed by Metropolitan did not disclose that the carrier had made a significant number of overpayments, a study made by Metropolitan in the latter part of 1969 showed that overpayments had been made. On the basis of its study made at the request of SSA, Metropolitan estimated that its benefit payments would have been reduced by about $42,000 during the 12-month period ending March 31, 1969, if it had applied SSA's reasonable charge criteria.

Since Pan-American had not developed sufficient data on the physicians' customary charges and the prevailing charges in the area for similar services, we could not determine the amount that benefit payments would have been reduced if the carrier had followed SSA criteria to evaluate the reasonableness of charges.

As a result of the inappropriate procedures followed by the carriers to evaluate the reasonableness of amounts charged for physicians' services, neither SSA nor the carriers had adequate assurance that the amounts paid for Medicare services were reasonable.

Our findings with respect to each of the three carriers are discussed in greater detail in the following sections of this report.

AETNA LIFE INSURANCE COMPANY

Our review of a random sample of 100 claims processed and paid by Aetna's Portland claims office during the 3-month period ending July 31, 1968, showed that, for 85 services on 42 claims, the claims office paid about $343 in excess of available reasonable charge criteria. These excess payments were made because the claims office (1) did not determine whether the amounts claimed for services exceeded the physicians' customary charges, (2) generally did not use the prevailing charge data developed by the Aetna home office, (3) improperly coded charges for certain services, and (4) erroneously allowed charges which exceeded its prevailing charge guidelines.

By projecting the results obtained from our examination of the sample to the 56,000 claims processed by the carrier during the 3-month period, we estimate that benefit payments made by the claims office would have been reduced about $136,000 during this period if the claims had been processed properly and payments had been limited to the reasonable charges for the services as shown by data developed by the Aetna home office.

Our review showed that the claims examiners had improperly coded charges for certain services because they had been instructed to assign procedure codes (codes which identify the nature or type of service provided) to certain services on the basis of the amount charged for the service rather than the description of the service provided on the claim. Services which were improperly coded were generally not adequately described on the claims and consisted primarily of office and institutional visits, X-rays, and certain laboratory procedures. As a result of the improper codings, amounts were paid for some services which exceeded the established reasonable charge for the service described on the claim.

The Administrator of the Portland claims office advised us in February 1969 that the claims examiners had been instructed to handle some claims in the manner described above in order to expedite the processing of claims. He advised us, however, that the procedure had been discontinued and the claims examiners had been instructed to code services on the basis of the descriptions shown on the claims.

Workload statistics submitted to SSA by the carrier indicates that its revised claims review procedures have resulted in more instances where amounts claimed by physicians have been reduced. The carrier's average rate of claims reduction increased from 0.14 percent in fiscal year 1968 to about 4.9 percent in the period April through October 1969. In fiscal year 1968, the average rate of claims reduction for all carriers was about 3.0 percent.

BEST DOCUMENT AVAILABLE

To ascertain if similar improvements had been made by Aetna in the other States where it serves as Medicare carrier, we analyzed the rate of reduction in physicians' charges made by Aetna in those States. On the basis of our analysis, it appeared that the carrier had determined, in relatively few cases, that the amounts claimed were greater than the physicians' customary charges and should be reduced.

After discussing this matter with Aetna home office officials, they acknowledged that physicians' charges in three of the States (Arizona, Nevada, and Oregon) where Aetna serves as Medicare carrier generally had not been reduced on the basis of the carrier's determination that the charge exceeded the physician's customary charge for the services. Aetna home office officials advised us in February 1969 that their claims offices had been instructed to check physicians' charges against the customary charge profiles. We estimate that, as a result of this change in procedures, physicians' charges were reduced by $512,000 during calendar year 1969 in the three States mentioned above.

METROPOLITAN LIFE INSURANCE COMPANY

Our review of a random sample of 100 claims processed and paid by Metropolitan in its New York service area during the 3-month period ending September 30, 1968, and the related procedures for determining the reasonableness of physicians' charges showed that customary and prevailing charge data used by the carrier in making reasonable charge determinations had not been developed in accordance with SSA criteria.

Metropolitan's procedures for determining the physicians' customary charges and the prevailing charges in the area for specific medical services were based on charges for services to Medicare patients only and did not take into consideration the charges for similar services provided to persons other than Medicare patients.

Metropolitan's procedures also did not take into consideration all of the charge data on the Medicare claims it had processed and paid. Metropolitan followed the practice of coding and listing only those items of service which represented the largest charge on the claim plus all charges for routine hospital and office visits. Also, charge data related to services which were paid by the beneficiary (because of the deductible provision) were not taken into consideration. From this information Metropolitan prepared monthly listings showing the charges, made by all physicians in its service area, for each type of service provided to Medicare beneficiaries.

Our analysis of 100 claims showed that, because of the procedures followed by Metropolitan, about 38 percent of the charges on these claims had not been coded and included in the listings of physicians' charges. Except for routine hospital and office visits, the customary or prevailing charge for the various services was not computed by the carrier and furnished to its claims examiners to make their reasonable charge determinations.

We found that the procedure followed by the claims examiners to determine the reasonableness of physicians' charges consisted primarily of a review of the physician's pattern of charges for one of the two most recent months for which the carrier had prepared listings. Using these listings the claims examiner made a case-by-case review of the physicians' charges and generally selected, as the customary charge, the amount most frequently charged by the physician for the service during the month. However, if the claims examiner was aware or determined that the physician had recently raised his fee, he could approve the higher amount as the customary charge for the service.

This method of establishing physicians' customary charges, which relied primarily on the judgment of the claims examiner in his case-by-case review of charges for medical service, did not, in our opinion, comply with SSA requirements.

For all medical services, except routine hospital and office visits, Metropolitan determined the prevailing charge in the area for each service on the basis of dollar conversion factors applied to the numerical value assigned to the service by the New York Relative Value Study. These conversion factors were established by the carrier on the basis of analyses of its claims experience and the judgment of its Medical Division. For routine hospital and office visits, prevailing charges were established on the basis of the charge data on the monthly listings prepared by the carrier.

We were advised in November 1968 that Metropolitan had discontinued the practice of contacting physicians to determine whether they had raised their fees for medical services. We were advised also that, effective in October 1968, prevailing charges had been established for 45 medical services; however, the New York Relative Value Study was still being used to establish prevailing charges for some services.

Metropolitan officials advised us also of their plans to implement an automated claims processing system which would include the determination of reasonable charges for physicians' services. According to Metropolitan officials, the system would be designed to accumulate all charges by procedures in addition to computing customary and prevailing charges for the services.

Although our review of a sample of 100 claims did not disclose a significant number of overpayments, a study made by Metropolitan in the latter part of calendar year 1969 showed that overpayments had been made. Metropolitan, at the request of SSA, computed customary charges for physicians' services on the basis of the charge data it had accumulated during calendar year 1968, and compared this data with the data which had been used by its claim examiners during 1968 to determine the reasonableness of physicians' charges. On the basis of this comparison, Metropolitan estimated that it had made overpayments on Medicare claims amounting to about $42,000 during the 12-month period ending on March 31, 1969.

An SSA official advised us in September 1970 that Metropolitan should complete the implementation of its automated claims processing system early in calendar year 1971.

PAN-AMERICAN LIFE
INSURANCE COMPANY

Our review of a random sample of 100 claims paid by Pan-American during a 3-month period ending September 30, 1968, and the procedures used by the carrier to determine the reasonableness of physicians' charges showed that Pan-American was not making reasonable charge determinations in accordance with SSA requirements.

During the period covered by our review, Pan-American did not consider the physician's customary charge or the prevailing charge in the area for similar services, as required by SSA, to determine the reasonableness of physicians' charges. Instead, carrier personnel manually compared the charges claimed for services with a prevailing charge determined by applying a dollar conversion factor to the numerical value assigned to the service by the California Relative Value Study.

Since Pan-American had not developed sufficient data on physicians' customary and prevailing charges, we could not determine the amount that benefit payments would have been reduced if the carrier had followed SSA's criteria to evaluate the reasonableness of charges.

Our review showed several instances where the type of service provided had been coded by the claims examiners on the basis of the amount charged for the service rather than on the basis of the description of the service shown on the claim. We noted that these instances of improper coding generally occurred on claims involving charges for office visits which were not adequately described and which exceeded the reasonable charge established by the carrier for routine office visits. In these instances, the claims examiner, without obtaining additional information as to the nature of the services provided, would arbitrarily code the service as a visit other than a routine visit which, in effect, would justify payment of the higher charge.

When we discussed this finding with the carriers' claims manager in March 1969, he agreed that the higher charges should have been questioned. He maintained, however, that the claims examiners could not be expected to review entire claim files or contact physicians in each instance where claims did not have sufficient information; he indicated that, to do so, would prevent the examiners from meeting their daily quotas and would create a backlog of unprocessed claims.

Pan-American officials took the position that differences in charges for similar services provided by the same physician, indicated a difference in the services provided. In the absence of evidence to the contrary, Pan-American assumed that the services were different and coded the claims differently. However, Pan-American advised us in May 1969, that they had begun coding all services on the basis of the description of the service shown on the claims.

Our review showed that Pan-American continued to have difficulty in developing and implementing appropriate customary and prevailing charge criteria in accordance with SSA requirements. In November 1969, Pan-American terminated its efforts to establish customary and prevailing charge criteria and, at that time, made a study of the computer system (Part B model system) developed by SSA to process and pay claims for physicians' services. On the basis of its study, Pan-American concluded that it would be to its advantage to implement SSA's Part B model system as soon as possible. We were subsequently advised by SSA that the model system had been implemented by Pan-American in June 1970.

CHAPTER 4

CONCLUSION

At the time of our review, each of the three carriers--Aetna, Metropolitan, and Pan-American--was having difficulty complying with SSA requirements for determining the reasonableness of physicians' charges under part B of the Medicare program. As indicated in Chapter 3 of this report, each of the carriers have subsequently undertaken certain changes in their claims processing procedures which were intended to minimize or prevent the deficiencies disclosed by our review.

Since the completion of our review work, SSA has also taken steps to minimize some of the claims processing problems of these three carriers. In April and May 1970, SSA assigned onsite representatives to each of the carriers to study all facets of their claims processing activities to insure that their activities are being managed effectively and that SSA directives are being followed. Also, SSA has taken steps to reduce the time interval between its reviews of the carriers' claims processing activities.

An SSA official advised us that, in order to expedite the implementation of necessary corrective action, SSA has improved its information gathering system to keep abreast of the status of corrective action taken or promised by the carriers and, in some instances, special teams of SSA employees were organized and assigned to work directly with the carriers experiencing difficulties in processing and paying Medicare claims in accordance with SSA criteria.

We will consider the effectiveness of the carriers' revised claims processing procedures and SSA's efforts to improve the overall administration of the Medicare program in our subsequent reviews of the carriers' operations.

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U.S. GENERAL ACCOUNTING OFFICE

STAFF STUDY

CONTINENTAL OPERATIONS RANGE

DEPARTMENT OF THE AIR FORCE

FEBRUARY 1975

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C O N T E N T S

ABBREVIATIONS

AFCOR	Air Force Continental Operations Range
AFTEC	Air Force Test and Evaluation Center
COR	Continental Operations Range
CORAG	Continental Operations Range Advisory Group
DCP	Development Concept Paper
DDR&E	Director of Defense Research and Engineering
DOD	Department of Defense
DSARC	Defense Systems Acquisition Review Council
EWJT	Electronic Warfare Joint Test
O&M	Operation and Maintenance
OT&E	Operational Test and Evaluation
PMD	Program Management Directive
PMP	Program Management Plan
RDT&E	Research, Development, Test and Evaluation
TAC	Tactical Air Command
TEMO	Test and Evaluation Management Office
TESPO	Test and Evaluation Systems Program Office
TFWC	Tactical Fighter Weapons Center, Nellis Air Force Base
W/H/D	Wendover, Hill and Dugway

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SUMMARY

SYSTEM DESCRIPTION

The Continental Operations Range (COR) program was originated in 1972 to provide improved capabilities for operational testing, aircrew training, and limited developmental test and evaluation not available at other Department of Defense (DOD) ranges and test facilities. The program called for improving and integrating three existing range complexes located in the western part of the United States. COR was planned to provide a realistic combat environment where strike size air forces could be tested against a large scale multi-defended area.

The COR capability was to be developed incrementally in the following phases:

near-term (to be completed in fiscal year 1977)--consisted primarily of improvements to be made at the Tactical Fighter Weapons Center (TFWC) test ranges at Nellis Air Force Base adding ground targets, threat simulators, extensive communications, and instrumentation to track multiple participants.

mid-term (fiscal years 1978 and 1979)--consisted of installation of instrumentation, communications, threat simulators and ground targets to the Hill Air Force Base test range and the integration of the Wendover, Hill, and Dugway (W/H/D) test ranges with the TFWC complex.

far-term (fiscal years 1980 through 1982)--consisted of the addition of communications for purposes of air-to-air and air-to-ground missions using the Fallon Naval Air Station for staging purposes.

The Air Force was given the responsibility to define and manage the COR program which was estimated in May 1974 to cost about $20.3 million, excluding required operation and maintenance and military personnel funding. (See Chapter 2)

STATUS AND COMING EVENTS

In December 1973, Congress denied fiscal year 1974 COR procurement funds. The Air Force later requested COR procurement funds as part of the DOD fiscal year 1974 supplemental request and Congress again denied the request. On September 18, 1974, Congress denied COR funding for fiscal year 1975. The Air Force now plans to request funding for the improvement of TFWC ranges, which was intended to be provided as a portion of the near-term phase of COR. A total of $15.3 million had been spent by the Air Force on COR planning up to the time COR funding was denied.

Although the Air Force does not plan further range improvements under the COR program, it estimates that $42.6 million will be needed for improvements to the TFWC test ranges during fiscal years 1975 through 1979 to accommodate basic Air Force tactical mission requirements. (See Chapter 4 and Appendix III)

ORIGINATION OF COR CONCEPT

The DOD and the Air Force have extensively studied the adequacy of test and evaluation since the early 1970's. Many of these studies have pointed out a need for a test range having a large unrestricted area and a realistic environment for operational testing and training. Three major reports were issued; the DOD sponsored Blue Ribbon Defense Panel Report of July 1970, the Air Force's "HAVE LOGE" report issued in October 1970, and the DOD Test and Evaluation Facility Base Review dated June 1971. All of these studies called for improved operational test capability. The DOD Test and Evaluation Facility Base Review recommended the location for a Continental Operations Range and represented the basic document that justified the need for a COR as it was later defined. (See Chapter 2)

COR MANAGEMENT PLAN

COR was originally conceived as a DOD range to provide previously unavailable operational test and evaluation and training capability for use by all three services. In the early planning stages, the Army and Navy discontinued their participation in COR and the Air Force was given program management responsibility. Within the Air Force, the Tactical Air Command (TAC), as the primary user and owner of existing ranges in the COR area, was given overall management and operating responsibility for COR. TAC began the planning for COR with the establishment of a COR Group at Nellis Air Force Base and the writing of a COR development plan identifying tasks, responsibilities, and requirements. Later the primary planning responsibility was shifted to the Air Force Systems Command's Test and Evaluation Systems Program Office (TESPO) located at Kirtland Air Force Base. TESPO wrote a program management plan, divided the COR tasks functionally, and set up a management structure to handle the various tasks identified. There was participation by a number of other Air Force organizations in the planning of COR. At the time COR funds were denied by the Congress, limited participation by the other services in COR planning had begun and further involvement was planned. (See Chapter 3)

CONGRESSIONAL DENIAL OF COR FUNDS

The Air Force requested $3.8 million for fiscal year 1974 COR investment funds. This request was denied by a Congressional conference committee after the House committee recommended denial and the Senate committee recommended restoration of the funds. As part of the fiscal year 1974 DOD supplemental request, the Air Force again requested the $3.8 million and the conference committee denied the request after the House committee recommended denial and the Senate committee recommended restoration.

During March and May 1974, Subcommittees of the House and Senate Appropriations Committees held hearings on the fiscal year 1975 DOD appropriations. The Air Force's fiscal year 1975 request for COR investment funds amounted to $29.6 million. In August 1974, House and Senate committee reports were issued. The House report recommended denial of all fiscal year 1975 funds associated with COR. The Senate report recommended restoration of COR funds. A conference report issued on September 18, 1974 upheld the denial of COR funds proposed by the House. (See Chapter 4)

COR TERMINATION AND AIR FORCE PLANS
TO ACQUIRE COR-TYPE CAPABILITIES

On December 19, 1974, the Department of the Air Force forwarded a message to COR participants that stated that all planning actions, agreements, organizations, and other activities directly related to the COR program were terminated. The message further stated that since the COR program encompassed a broad scope of Air Force range activities, functions, and interagency agreements which existed prior to initiation of the COR planning or would have evolved as a result of revised management concepts, only those specific items that could be clearly differentiated from the COR program were to be retained or revised as appropriate.

Although fiscal year 1975 funding for COR has been denied and the Air Force does not plan to request COR funding in the future, improved range capabilities at existing operational ranges, which were started under the COR program, are still planned. Improvement of the TFWC and U/B/D Ranges during the period 1974 through 1976 will result in significant improvements in instrumentation (e.g., threat, scoring, tracking, and time-space-position-information systems) and communications. (See Chapter 4)

MATTERS FOR CONSIDERATION

The Air Force still feels that many of the improved test range capabilities planned for COR are urgently needed for Air Force operational testing and training requirements. Since the Congress eliminated COR funding, it may want to closely review current Air Force plans for obtaining similar capabilities. The Congress may also want to obtain information concerning the loss in operational test capability with the cancellation of COR, the effect on future weapon system operational testing, and the Air Force's plan to satisfy future test requirements.

QUESTIONS

Although not fully developed in this staff study we believe there are some matters relating to test and evaluation which warrant further attention. The following questions are provided for use by the Congressional committees during fiscal year 1976 hearings.

1. What is the feasibility of centralizing the direction and management of operational test and evaluation (OT&E) activities of the military services to achieve the maximum OT&E capability at minimum cost?

2. With the dissolution of TEMPO (see page 25), how does the Air Force intend to provide for management of its OT&E capabilities needed in the future?

3. What is the nature and cost of planned range improvements during the next five years at the Hill, Wendover, and Dugway Ranges? How will the capability derived from these improvements compare with that which was to be developed or acquired during mid-term COR?

AGENCY REVIEW

A draft of this study was reviewed by Department of Defense officials associated with the management of the program, and their comments were incorporated in this report as we believe appropriate. We know of no residual difference with respect to the factual material presented herein.

CHAPTER 1

INTRODUCTION

The Continental Operations Range (COR) was to be formed by the improvement and integration of the existing range complexes at Nellis Air Force Base, Las Vegas, Nevada, the Wendover, Hill and Dugway (W/H/D) Ranges near Salt Lake City, Utah, and the Fallon Naval Air Station range near Reno, Nevada. COR was planned to provide a realistic combat environment where strike size forces could be fully exercised against a large scale multi-defended area. COR was to provide a capability to perform operational test and evaluation, aircrew training and limited developmental test and evaluation not available at other Department of Defense (DOD) ranges.

The missions to be performed on COR were to include tactical, strategic and operational support missions including offensive strike, air defense, reconnaissance, combat search and rescue, combat airlift, and command and control. These integrated mission areas would include most types of weapon employment such as air-to-air, air-to-ground, electronic warfare, drone and remotely piloted vehicles, helicopter, and airlift.

The most important capability to be provided by COR was improved operational test and evaluation. Operational test and evaluation is that testing carried on by an organization independent of the developer, in a realistic environment, to show a system's probable military utility and operational effectiveness. Operational test and evaluation usually follows development test and evaluation, which is conducted by the developer to prove that a system technically meets the requirements placed upon the developer.

The second major capability to be provided by COR was improved training. In terms of sorties or flights, 80 percent of initial COR utilization was to be training and only 20 percent was to be testing. In terms of workload and resources expenditure, 60 percent of the range usage was to be testing and 40 percent training.

The planning for COR began in fiscal year 1972 with the development of COR planned to run through fiscal year 1982. In late 1973, Congress denied an Air Force request for $5.8 million for fiscal year 1974 COR investment funds and in late 1974 Congress denied $22.2 million directly attributable to the development of COR for fiscal year 1975. In December 1974, the Air Force terminated all planning, agreements, organizations, and activities directly associated with the COR development and acquisition program.

Although fiscal year 1974 and 1975 COR funding was denied and the Air Force does not plan to request COR funding in the future, the Congress approved funds for improved operational test and evaluation and the Air Force plans continuing improvement of the TFWC and W/H/D Ranges. Improvement of the TFWC range during 1974 and 1975 will result in the ranges having a significant improvement in range capability similar in nature but reduced in scope to that planned to be developed during near-term COR. Integration of the W/H/D Ranges to a single major test facility under the Department of Defense is under study. This could result in significant future improvements to these ranges.

As a part of our continuing program of reviewing major acquisitions, we selected the COR program for review during 1974. In late July, field work was begun at the principal COR program management office, the Air Force's Test and Evaluation Systems Program Office (TESPO) in Albuquerque, New Mexico. Audit work was also conducted at the Tactical Fighter Weapons Center at Nellis Air Force Base, Nevada.

CHAPTER 2

THE COR CONCEPT

The Department of Defense (DOD) and the Air Force in a number of studies established that there was a need for a range providing a large operational test and evaluation (OT&E) and training environment emphasizing operational realism beyond the capability of any present facility. Three major studies were done; the DOD sponsored Blue Ribbon Defense Panel Report, the DOD Test and Evaluation Facility Base Review, and the Air Force "HAVE EDGE" study. Following these conceptual studies, a developmental concept paper was written which specifies the COR area and the general capabilities COR would provide. The first detailed capability requirements were defined by the Tactical Air Command. Later, COR capability requirements were further defined and developed by the TESPO.

The Blue Ribbon Defense Panel Report, dated July 1970, was the result of a year-long study of the Department of Defense by a panel of prominent individuals. The report concluded that within DOD, OT&E had been too infrequent, poorly designed and executed, and generally inadequate. The report stated that existing ranges were marginally adequate to support the OT&E which had been performed, and expressed doubt that they were adequate for OT&E which should have been but was not performed. The report pointed out that, although in most actual combat environments the United States must conduct combined operations, there were no effective methods for conducting OT&E which cuts across service lines.

In early 1966, the Air Force developed a general concept for an integrated air offensive/defensive test environment. Numerous in-house and contractor supported studies were done including a joint Air Force/ contractor effort known as "HAVE EDGE" issued in October 1970. "HAVE EDGE" called for the creation of a very sophisticated facility covering a large area including the air space over most of Utah and Nevada with the Hill Air Force Base and Dugway ranges as its center. Cost estimates for acquiring and operating the "HAVE EDGE" ranges varied from about $450 million to $1.5 billion over a 20-year period and it was rejected by the Air Force as being too expensive.

As a result of the Blue Ribbon Defense Panel Report, the DOD directed a detailed study of existing test facilities in order to determine a logical approach to implementing the panel's recommendations. This study, called the DOD Test and Evaluation Facility Base Review, dated June 1971, was a separate but coordinated action with the Air Force "HAVE EDGE" effort. The study defined areas of the country where suitable OT&E could be conducted and recommended the creation of several ranges by tying together existing ranges. One of these was the Continental Operations Range.

The first specific capability requirements for COR were developed by Tactical Air Command (TAC) as the manager of the COR program, the manager of existing ranges, and one of the major range users. Later, when TESPO took over prime management responsibility, an effort was made to involve other major Air Force range users in the requirements determination effort. Standard missions to be run on COR were identified and from these, capability requirements were to be derived. OT&E needs of specific future weapons systems were not identified and used in the COR capability requirements definition effort. Other services had no direct participation in identifying COR requirements.

As defined in the April 1973 COR Development Concept Paper (DCP), COR was to provide

—a range facility which would permit operational test and evaluation of equipment and strike-sized air warfare elements in a realistic combat environment,

—large land and airspace areas where unconstrained exercises can be conducted to train military air warfare elements in a realistic but simulated combat environment, and to evaluate tactics, performance, and capabilities of those elements, and

—a combat-like environment for selected development test and evaluation which cannot be accomplished at existing research and development ranges.

The DCP specified that the COR would be developed in the Las Vegas, Salt Lake City, Reno area since the western United States is the only geographical area in the Continental United States that has the land and air space necessary and which is sufficiently free from encroachment and electromagnetic interference to support the COR concept.

Broad mission areas were defined in the DCP in terms of all types of weapons employment involving supersonic/subsonic, air-to-air, air-to-ground, electronic warfare, remotely piloted vehicle, reconnaissance, helicopter, and airlift missions. The missions were to be conducted during continuous day and night, all-weather range operations. The facility would support live, inert, captive, and simulated weapons deliveries. While the major COR activity would be operational test and training designed to accommodate the offensive mission, other missions such as air defense, combat search and rescue, combat airlift, and exercise of the Tactical Air Control System including the Airborne Warning and Control System would also be accommodated.

COR was to be developed incrementally permitting termination at any given level and still provide an increased capability for testing and training. COR development was to take place in three phases; near-term, which was originally scheduled to be completed during fiscal year 1976 and later slipped to fiscal year 1977; mid-term, which was originally scheduled for completion during fiscal year 1978 and later slipped to 1979; and far-term, scheduled for completion during fiscal year 1982.

NEAR-TERM PHASE

Near-term development was to be concentrated within the Nellis area with some improvements beginning at W/H/D. The TFWC ranges consist of a North Range, the South Range, and the Caliente Range. Improvements to be made to the North Range included the additional ground targets, threat simulators, and instrumentation to track multiple participants. The South Range was to receive additional ground targets and instrumentation to track multiple participants. The Caliente Electronic Warfare Range was to receive additional threat simulators, multiple participant tracking capability, and communications to tie to a control center to be added at Nellis. Drone/remotely piloted vehicle routes were to be established between TFWC Ranges and the W/H/D area along with a backbone communications system.

COR near-term operations were to continue existing air-to-ground missions conducted on the TFWC South Range; initiate electronic warfare and air-to-air on the North Range; expand tactical defense suppression training on the Caliente Range; and continue drone/remotely piloted vehicle operations on the W/H/D Ranges.

MID-TERM PHASE

Preliminary planning for COR mid-term called for the addition of threat simulators to the Hill Range and the addition of multi-participant tracking and communications to each of the W/H/D Ranges. A data link connecting TFWC ranges with W/H/D Ranges, and with Hill Air Force Base as well as a local range control center for the W/H/D Range complex were to be completed. Special gap filler radars were to be added to provide extended coverage of the drone/remotely piloted vehicle corridor.

During mid-term COR, the same type missions as outlined for near-term were to be run on the TFWC Ranges with increased use of the TFWC-W/H/D corridor. The Wendover, Hill, Dugway ranges were to be used for expanded air-to-air, air-to-ground, and drone/remotely piloted vehicle missions, and refined electronic warfare testing. Integrated air and ground operations with strike size forces were to be conducted.

FAR-TERM PHASE

During far-term COR, the ranges at Fallon Naval Air Station were to be linked with the other COR ranges with communication and an air corridor. Operational arrangements between the Navy and Air Force were to be expanded to allow the Air Force to use Fallon ranges.

The far-term COR phase would provide for air-to-air and air-to-ground missions using the Fallon ranges principally as staging areas as well as previously described missions on the other COR ranges.

COR DEVELOPMENT PLAN

The COR development plan written by TAC primarily addressed near-term COR and included a definition of specific capability requirements for land and air-space, threat environment, evaluation, and range data. These requirements were developed using the "HAVE EDGE" Report, aircraft performance data, weapon systems performance data, data from completed OT&E evaluations, and a TAC list of outstanding OT&E requirements.

PROGRAM MANAGEMENT PLAN

The program management plan (PMP) written by TESPO after they assumed overall management responsibility for COR included an annex devoted to the identification of COR requirements. In preparing the requirements annex, the DCP and the TAC development plan were used as beginning points. To further identify requirements potential Air Force COR users were surveyed. The results of preliminary survey work were included in the requirements annex to the PMP.

FIELD VISITS

Field visits to major Air Force commands were made to further identify user requirements. Between May and September 1974, TESPO developed a number of OT&E and basic or standard training missions using the information received from the commands. The missions developed were strategic penetration, air superiority, defense suppression, integrated strike search and rescue, close air support, airlift, interdiction, and fighter/bomber defense, OT&E of air-to-air and air-to-ground weapons systems, and training. The missions were divided into phases with the actions taking place in each phase identified in detail, so that an analysis of each mission could be made to develop specific capabilities needed for

COR. This work was nearing completion at the time COR funding was cancelled.

INPUT BY THE AIR FORCE TEST AND EVALUATION CENTER

A second major source of requirements for OT&E was to be the Air Force Test and Evaluation Center (AFTEC). AFTEC began operations in 1974 and was chartered with managing the Air Force's OT&E program. AFTEC was still in the process of identifying OT&E requirements for major weapons systems being developed at the time COR funding was denied and had not yet had a major input to the definition of COR requirements. In contrast to the basic or standard missions identified for COR as a basis for requirements, the capability needs identified by AFTEC would have been related directly to specific weapons systems.

COR COSTS

In hearings before a House Appropriations Subcommittee, in September 1973, the Air Force estimated that the total investment cost of COR through fiscal year 1982 would be $162.8 million. This included $7[illegible].2 million in research, development, test and evaluation (RDT&E), $79.[illegible] million in other procurement, and $5.2 million in military construction. COR near-term and mid-term were estimated to cost $112.8 million through fiscal year 197[illegible], with an additional $50 million required to complete COR far-term.

TESPO identified capability requirements in some detail for incorporation into the May 1974 program management plan. The cost of these requirements was estimated by TESPO to be in excess of $287 million. A budget ceiling of $207.9 million for the total program was imposed by Headquarters Air Force and TESPO prepared a COR acquisition program on this basis. Requirements to be funded were based on a priority list prepared by TESPO.

In hearings before Congress in May 1974, the Air Force testified that the estimated total investment cost of COR would be $207.9 million consisting of $84.1 million for RDT&E, $109 million in other procurement, and $14.8 million in military construction. The Air Force explained the increase in the cost estimates to have resulted from a further definition of requirements and a refinement of costs, and to represent increased cost of material and labor and more precise estimates based on detailed systems engineering.

Appendix II shows the investment costs presented to Congress as later modified by the Director of Defense Research and Engineering (DDR&E) and the Air Force to distribute some of the funds into fiscal year 1981 and 1982. Although the costs presented to Congress were shown to be incurred only through fiscal year 1980, some of the costs were planned to be deferred to fiscal years 1981 and 1982.

When COR operations and maintenance costs and military personnel costs attributable to COR estimated to be incurred through fiscal year 1982 are added to the investment cost of $207.9 million a total cost of $384.3 million results. These costs, by year, are shown in Appendix II.

At the time Congress denied COR funding in September 1974, the Air Force had spent a total of $15.3 million in the COR planning effort.

As discussed in Chapter 4 of this report, TFWC ranges will continue to operate and be improved in the future. Appendix III shows a comparison of costs planned to be incurred for COR with those estimated to be incurred at TFWC after cancellation of the COR program through fiscal year 1979.

CHAPTER 3

MANAGEMENT RESPONSIBILITIES

COR was originally conceived as a DOD range to provide previously unavailable operational test and evaluation capability for use by all three services. In the early planning stages, the Air Force was given responsibility for the program. Within the Air Force, TAC, as the primary user and owner of existing ranges in the COR area, was given overall management and operating responsibility for COR. TAC began the planning for COR with the establishment of a COR Group and the writing of a COR development plan identifying tasks, responsibilities, and requirements. Later the primary planning responsibility was shifted to TESPO. TESPO wrote a program management plan, divided the COR tasks functionally, and set up a management structure to handle the various tasks identified. There was participation by a number of other Air Force organizations in the planning of COR. At the time COR funds were denied by the Congress, limited participation by other services in COR planning had begun and further involvement was planned.

Following the recommendations of the 1971 DOD Test and Evaluation Facility Base Review that a COR be established, the DOD Tri-Service Coordination Committee for Integrated Offensive/Defensive Test Environment began work on a DCP for COR. On May 5, 1972, DDR&E dissolved the Tri-Services Coordination Committee and assigned completion of a draft DCP for COR to the Air Force. The Air Force draft, dated July 1972, resulted in the final DCP issued in April 1973.

The Air Force was the prime mover among the services in establishing COR and with the drafting of the DCP became responsible for planning and managing COR development and operation. DDR&E's role became one of monitoring the Air Force's planning and budgeting for COR. Overall responsibility for the management and operation of COR was assigned to TAC with the Air Force Systems Command charged with the responsibility of supporting TAC by development and acquisition of necessary COR hardware. The assignment of TAC as the supervisor of the COR program was on the basis that TAC was the principal operating command responsible for Air Force tactical OT&E and training exercise functions and was the major owner and operator of the equipment and facilities which would be integrated during near-term COR.

To carry out their respective responsibilities TAC established a COR Group at Nellis Air Force Base and Systems Command established a Test and Evaluation Management Office (TEMO) in Albuquerque, New Mexico.

In May 1972, the Chief of Staff, Air Force directed TAC to prepare a development plan for COR to include near-term improvements for OT&E/training and far-term development of COR. The TAC AFCOR

Development Plan 72-1 was published in response to this direction. In June 1973, Headquarters, Air Force, issued a program management directive (PMD), directing TAC to implement COR near-term. This PMD assigned overall responsibility for managing and operating near-term COR to TAC, assigned development, acquisition, and technical responsibility to Systems Command, and identified support to be provided by other commands to TAC and Systems Command.

In August 1973, TAC with assistance from other commands updated the original plan in consonance with the June 1973 PMD and redesignated it, AFCOR Development Plan 73-1. This plan dealt with requirements, acquisition schedules, costs, manpower and organizational structure, implementation schedules, and major milestones for COR.

During 1973, questions were raised within the Air Force as to the approach being used to manage the acquisition of COR. Some officials felt that near-term COR was being developed without sufficient long term planning or consideration of the workload of all other Air Force commands. In November 1973, the Air Force Chief of Staff directed that acquisition of COR would be done as a normal systems acquisition by Air Force Systems Command. This direction was formalized in a program management directive, dated February 1974. Although TAC was no longer the manager of the program, they were to continue to operate the ranges at Nellis.

With the shift in primary COR development and acquisition responsibility to Systems Command, TESPO (formerly TEMO) became the centralized management agency responsible for COR development and acquisition. In May 1974, TESPO issued a program management plan (PMP) for the development and acquisition of COR. The PMP categorized the program into several management areas and discussed in some detail the management of each.

The PMP called for the establishment of 14 working groups to provide the needed interface between the large number of participating organizations concerned with COR. The working group charters specified the Air Force organizations and in some cases the other services to be represented on the working groups. Army or Navy participation was specified for the facilities, intelligence, safety, target, threat simulator, and project officers working groups. Participation by other services in the facilities and safety areas concerned the Army's Dugway Range which was to be included as part of COR.

A Continental Operations Range Advisory Group (CORAG) was established as an executive group to review program management decisions and make recommendations to Systems Command and TAC prior to the commitment of resources. The CORAG was co-chaired by the Commanders of the Special Weapons Center (the parent organization of TESPO) and the Tactical Fighter Weapons Center (the parent organization of the COR Group) and met quarterly to review the status of plans and actions occuring in the development and implementation of COR.

In an effort to obtain the involvement of the other services in the planning of COR, the Assistant Secretary of the Air [illegible]rce for Research and Development in an April 1974 memo to his Army and Navy counterparts requested participation by appropriate Army and Navy officials in the COPAG. The Air Force considered this to be an initial step toward achieving and objective of full time participation by working level personnel.

I[illegible]uly 1974, representatives of the Army and Navy participated in [illegible]PAG meeting and expressed interest in placing representatives [illegible] working groups. In August 1974, TESPO formally invited membership by the Army and Navy in several working groups. With the denial of fiscal year 1975 COR funding in September 1974, no further efforts were made toward tri-service coordination.

TESPO RESPONSIBILITIES FOLLOWING COR CANCELLATION

Following the cancellation of COR funding, TESPO was left with its basic mission of improving Air Force test and evaluation capability. A headquarters Air Force directive, dated November 15, 1974, designated Systems Command as the implementing command for the development of equipment designed to improve Air Force capability to conduct OT&E. TESPO program objectives set out in the directive were to provide an improved capability to conduct operational test and evaluation and training at existing Air Force test ranges and to establish a continuing RDT&E program.

TESPO officials stated that efforts in fiscal year 1975 would be in line with the November 15, 1974, directive as follows:

—a threat definition study which consolidates threat intelligence information as it applies to OT&E ranges with emphasis on the Nellis ranges.

—an effort to update the latest intelligence estimate on certain threat systems.

—an effort to determine the most cost effective approach for satisfying OT&E and training requirements for expendable, mobile, remotely controlled vehicular ground targets that visually portray representative enemy targets.

—participation in the procurement of an air combat maneuvering instrumentation system.

—participation in the acquisition of a Time-Space-Position-Information System.

—an electromagnetic compatibility study in support of the development and acquisition of emitting test and training equipment.

In February 1975, Systems Command stated that it planned to disband TESPO at the end of fiscal year 1975. The functions of TESPO would be transferred to the Armament Development and Test Center, Elgin Air Force Base, Florida.

CHAPTER [illegible]

CONGRESSIONAL ACTIONS AND FUTURE RANGE IMPROVEMENTS

CHRONOLOGY OF CONGRESSIONAL ACTIONS RELATING TO COR

For fiscal year 1974, the Air Force requested $3.8 million for COR procurement funds. The House Appropriations Committee recommended that the appropriation be delayed until completion of a Congressional staff review of military plans, requirements, and alternatives to COR. The Senate Appropriations Committee report recommended restoration of the $3.8 million. A conference report, issued on December 19, 1973, upheld the deletion of COR funds proposed by the House.

The Air Force again requested the $3.8 million as part of the DOD fiscal year 1974 supplemental request. Again the House Committee recommended deletion of the funds, the Senate committee restored the funds, and the conference committee upheld the House position.

During March and May 1974 the House Appropriations Committee and the Senate Appropriations Committee held hearings on fiscal year 1975 DOD appropriations. COR funds for fiscal year 1975 were part of the funds requested by the Air Force. In August 1974, committee reports were issued by the House and the Senate. The House committee report addressed the issue of COR negatively and recommended denial of

—the $12.9 million requested for other procurement, Air Force,

—the entire $4.? million request for COR - research, development, test and evaluation (RDT&E), and

—the $1.1 million for operation and maintenance (O&M).

The Senate committee report, in addressing COR, recommended restoration of the above funds.

A conference report, which was a joint effort of the House and Senate committees, was issued on September 18, 1974. This report upheld the original denial and deletion of COR funds as proposed by the House.

During May 1974, the subcommittees of the House Committee on Appropriations held hearings on the fiscal year 1975 military construction appropriation. The House committee report dated November 19, 1974, denied the Air Force request for $5.2 million at various locations to provide facilities in support of the proposed tactical operations range. This report stated that it became clear during the hearings that the concept of a tri-service range was not based on need and that both the Navy and Army stated that no requirement existed for such a range.

The Senate committee report dated December 3, 1974, stated that the committee recognized the importance of COR. However, the committee restricted its approval for funding to provide $1.2 million for tactical operations range facilities at TFWC without regard to the COR concept.

In a conference report dated December 17, 1974, the House and Senate committees agreed to provide the $1.2 million for the tactical operations range facilities. The remaining portion of the $5.2

million requested by the Air Force was not funded.

FUTURE RANGE IMPROVEMENTS AT TFWC AND W/P/D RANGES

Although fiscal year 1974 and 1975 COR funding has been denied and the Air Force does not plan to request COR funding in the future, improvement of the TFWC and W/P/D Ranges is planned. Improvement of the TFWC Ranges during 1974 through 1977 will result in the ranges having a significant improvement in range capability similar to that planned to be developed during near-term COR. Integration of the W/P/D Ranges to a single major test facility under the Department of Defense is under study.

A direct comparison of planned TFWC improvements to COR improvements is not possible since decisions on improvements to be made are not firm and COR planning was not completed. What follows is a discussion of the improvements made or planned for the TFWC and W/P/D Ranges and the general capabilities that were to be added during COR.

TFWC Ranges

During 1974 a major joint test under the sponsorship of DOD was conducted on the TFWC Ranges. This test, called the Electronic Warfare Joint Test (EWJT), involved the Air Force and Navy. A considerable amount of DOD and Navy owned equipment was moved into the Nellis area for the tests. Additionally, an Army system for testing of weapons systems was moved to Nellis and used to enhance the TFWC capabilities. Following completion of EWJT in late 1974, the

Navy equipment was removed from Nellis; however, the Air Force retained custody of much of the DOD owned equipment and the Army equipment.

During near-term COR, the TFWC ranges were to receive multiple participant tracking capability at the North, South, and Caliente Ranges, threat simulators at the North and Caliente Ranges, and additional ground targets at the North and South Ranges. A large central control facility was to be built at Nellis and communications were to be provided between this facility and each of the TFWC ranges, and the W/H/D Ranges.

A building at Nellis was converted into a central control facility for EWJT. Data collection and reduction capability and communications were installed in the range central using DOD and Army furnished equipment. TFWC has retained the range central and its capabilities following EWJT. This facility provides much of the capability which was planned to be added during near-term COR but has limited growth potential. To obtain the full capability planned for COR, the present range central would have to be enlarged or a new building built and additional equipment added.

Multiple participants tracking capability has been added at Nellis with DOD and Army equipment obtained during EWJT. Additional capability to track and score air-to-air multiple engagements will be added with the acquisition of new air combat maneuvering instrumentation being purchased by the Air Force.

Several threat simulators were purchased during 1974 for delivery to TFWC in 1974 and 1975. With the exception of one simulator which might have been delivered to COR but now will be delivered to Eglin AFB, Florida, the threat simulators received by TFWC will be the same as those planned for near-term COR.

Wendover, Hill, and Dugway Ranges

Improvements planned for mid-term COR included the addition of threat simulators to the Hill Range and the addition of multiparticipant tracking and communications to each of the W/H/D Ranges. A local range control center was to be established and special gap filler radars were to be added. The ranges were to be used for expanded air-to-air, air-to-ground, drone/remotely piloted vehicle missions, and refined electronic warfare testing.

In fiscal year 1973, the Air Force began improvements at Hill Air Force Base and the W/H/D Ranges in support of the drone/remotely piloted vehicle program managed at Hill Air Force Base. Remodeling of a building at Hill into a range central facility was begun. The facility was to serve as a range control and data gathering and reduction facility. Hill was planning the procurement of a multiple participant tracking system and improved communications equipment for the ranges. These improvements and others proposed through fiscal year 1977 were in addition to the COR to permit early support of the drone/remotely piloted vehicle program.

COF CHRONOLOGY

The Blue Ribbon Defense Panel Report, July 1970

This report was the result of a year-long study sponsored by the DOD. The report concluded that within DOD OT&E had been too infrequent, poorly designed and executed, and generally inadequate. The report stated that existing ranges were marginally adequate to support the OT&E which had been performed, and expressed doubt that they were adequate for OT&E which should have been but was not performed.

"HAVE EDGE" Study, October 1970

This study called for the creation of a very sophisticated test facility covering a large area including the air space over most of Utah and Nevada with the Hill Air Force Base and Dugway ranges as its center. Cost estimates for acquiring and operating the "HAVE EDGE" ranges varied from about \$480 million to \$1.5 billion over a 20-year period of operation and it was rejected by the Air Force as being too expensive.

DOD Test and Evaluation Facility Base Review, June 1971

As a result of the Blue Ribbon Defense Panel Report, DOD directed a detailed study of existing test facilities in order to determine a logical approach to implementing the panel's recommendations. The study defined areas of the country where suitable OT&E could be conducted and recommended the creation of several ranges by tying together existing ranges. One of these was the Continental Operations Range.

<u>TAC AFCOR Development Plan 72-1, July 1972</u>

This plan was published in response to a May 1972 Chief of Staff, Air Force, directive to TAC to prepare a development plan for COR to include near-term improvements for OT&E and training and far-term development of COR.

<u>Draft Development Concept Paper, July 1972</u>

Following the recommendations of the 1971 DOD Test and Evaluation Facility Base Review that a COR be established, the DOD Tri-Service Coordination Committee for Integrated Offensive/Defensive Test Environment began work on a development concept paper for COR. On May 5, 1972, DDR&E dissolved the Tri-Service Coordination Committee and assigned completion of a draft DCP for COR to the Air Force.

<u>Systems Command Directive, February 1973</u>

Systems Command gave the Air Force Special Weapon Center at Kirtland Air Force Base, Albuquerque, New Mexico, the responsibility of organizing a Test and Evaluation Management Office to be responsible for improving the operational test and evaluation capability of using commands in the Nellis Air Force Base area, and satisfying Systems Command's immediate development, test and evaluation capability needs in the Wendover/Hill/Dugway area.

COR Development Concept Paper, April 1973

The COR Development Concept Paper specified that the COR would be developed in the Las Vegas, Salt Lake City, Reno area since the western United States is the only geographical area in the Continental United States that has the land and air space necessary and which is sufficiently free from encroachment and electromagnetic interference to support the COR concept. It also discussed the issues of why there should be COR, and how soon should a COR capability be achieved.

Headquarters Air Force Directive, June 1973

This directive gave TAC responsibility for implementing near-term COR as well as the overall responsibility for managing and operating COR. It assigned development, acquisition, and technical support responsibilities to Systems Command.

TAC AFCOR Development Plan, 73-1, September 1973

In August 1973 TAC with assistance from other commands updated the original TAC AFCOR Development Plan 72-1, in consonance with the June 1973 directive. This plan dealt with requirements, acquisition schedules, cost, manpower and organizational structure, implementation schedules, and major milestones for COR.

House Appropriations Subcommittee Hearings, September 1973

In testimony the Air Force estimated that the total investment cost of COR through fiscal year 1982 would be $162.8 million. This included $78.2 million in RDT&E, $79.4 million in other procurement, and $5.2 million in military construction. COR near-term and mid-term were estimated to cost $112.8 million through fiscal year 1978, with an additional $50 million required to complete COR far-term.

Headquarters Air Force Directive, February 1974

In November 1973, the Chief of Staff, Air Force, directed that acquisition of COR would be done as a normal systems acquisition by Air Force Systems Command. In a Headquarters Air Force program management directive, dated February 15, 1974, Systems Command was designated the implementing command for the development and acquisition of COR. TAC was designated the COR operator pending a Chief of Staff Air Force decision on the final COR management system.

Air Force Systems Command Directive, March 1974

In March 1974, Systems Command designated TESPO as the lead organization for the development and acquisition of COR. TESPO was given responsibility for preparing a program management plan (PMP) for COR. In addition, TESPO was to be the responsible test organization for the program.

TESPO Program Management Plan, May 1974

In May 1974 TESPO issued a PMP for the development and acquisition of COR. The PMP categorized the program into several management areas and discussed in some detail the management of each. It set out requirements in some detail based on surveys of using commands.

House Appropriations Subcommittee Hearings, May 1974

In testimony, the Air Force estimated that the total investment cost of COR through fiscal year 1980 would be $297.9 million. This included $34.1 million for RDT&E, $199 million in other procurement, and $14.6 million in military construction. The Air Force explained the increase in the cost estimates from the previous year to have resulted from a further definition of requirements and a refinement of cost.

Development Concept Paper Revision A, July 1974

This was the first revision to the April 1973 DCP and revised completion dates for the three COR phases. Near-term COR completion was set for end of fiscal year 1977, mid-term for fiscal years 1978 and 1979, and far-term for fiscal years 1980 through 1982.

Defense Systems Acquisition Review Council (DSARC) Briefing, July 1974

In July 1974, TESPO gave a DSARC briefing covering COR planning and costs. DSARC approved the DCP and approved the COR program.

<u>Congressional Conference Report, September 1974</u>

On September 18, 1974, Congress denied COR funding for fiscal year 1975. As presented in a conference report of the Committee of Conference, House of Representatives, the amount of funding denied was: other procurement $12.9 million, RDT&E $4.2 million, and O&M $1.1 million.

<u>Headquarters Air Force Directive, November 1974</u>

Systems Command was designated the implementing command for the development of equipment designed to improve Air Force capability to conduct OT&E. TESPO program objectives set out in the directive were to provide an improved capability to conduct operational test and evaluation and training at existing Air Force test ranges and to establish a continuing RDT&E program.

<u>Congressional Committee Reports, November and December 1974</u>

The House committee report dated November 19, 1974, denied the Air Force request for $5.2 million for Military Construction at various locations to provide facilities in support of the proposed tactical operations range. The Senate committee report dated December 3, 1974, restricted its approval for funding to provide $1.2 million for ongoing tactical operations range facilities at TFWC without regard to the COR concept.

Congressional Conference Report, December 1974

The House and Senate committees agreed to provide $1.2 million for the tactical operations range facilities. The remaining portion of the $5.2 million requested by the Air Force was not funded.

Message from Chief of Staff, USAF, to COR Participants, December 1974

The message dated December 19, 1974, specified, among other things, that all planning actions, agreements, organizations, and other related activities directly associated with the COR development/acquisition program were terminated. The message further stated that only those specific items that can be clearly differentiated from the COR program may be retained as appropriate.

TOTAL COR FUNDING
FISCAL YEARS 1973 THROUGH 1982

Program Funding	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	Total
					(millions of dollars)						
RDT&E	--	[a]2.3	10.5	9.5	13.3	14.0	14.0	14.0	1.0	1.0	79.6
Other procurement including spares	--	--	13.9	16.2	17.6	20.9	20.9	18.5	6.5	2.1	116.6
Military construction	--	[a].5	5.2	3.0	3.0	--	--	--			11.7
Total Investment Costs		2.8	29.6	28.7	33.9	34.9	34.9	32.5	7.5	3.1	207.9
Operation and maintenance	1.3	1.3	5.9	10.6	12.1	13.6	13.6	13.6	13.6	13.6	99.2
Military personnel	3.1	4.1	5.7	7.4	8.9	9.6	9.6	9.6	9.6	9.6	77.2
Total	4.4	8.4	41.2	46.7	54.9	58.1	58.1	55.7	30.7	26.3	384.3

[a]Although these costs were shown as COR cost in Congressional testimony, $0.5 million was used for urgent minor construction during fiscal year 1974 and $0.3 million was redistributed to other programs by Headquarters Air Force in fiscal year 1974.

PROPOSED LEVEL OF FUNDING BY HEADQUARTERS AIR FORCE

C[illegible] PLAN

FISCAL YEARS (BEFORE [illegible] HAS DENIED)

	1975	1976	1977	1978	1979	Totals
	(millions of dollars)					
RDT&E	10.5	9.5	13.[illegible]	14.0	14.0	61.3
Other procurement	13.0	16.7	1[illegible].6	[illegible]	20.9	89.5
Military construction	5.2	3.0	3.0	--	--	11.2
Operations and maintenance	5.9	10.6	12.1	13.6	13.6	55.3
Military personnel	5.7	7.2	8.0	9.6	9.6	41.0
Total	41.2	46.5	54.9	[illegible].1	58.1	258.8

T[illegible] PROGRAM

FISCAL YEARS (AFTER COR HAS DENIED)

	1975	1976	1977	1978	1979	Totals
	(millions of dollars)					
RDT&E	--	--	--	--	--	--
Other procurement	--	8.6	14.0	5.1	13.7	41.4
Military construction	1.2		--	--	--	1.2
Operations and maintenance	4.7	7.8	9.6	10.8	11.8	44.7
Military personnel	6.0	7.4	8.3	9.0	9.8	40.5
Total	11.9	23.8	31.9	24.9	35.3	127.8