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SECTION VI

MISCELLANEOUS

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PART I -- SAFETY

The safety record at Ellsworth was compatible with other areas and projects of this magnitude. Though the contractor's frequency rate was not the best, it was comparatively low and there were no fatalities, no major type accidents or fires, a minimum number of vehicle accidents and property damage was extremely low. Appendix-F Tab 1 Page 6-20 depicts the cumulative accident summary for the span of the Titan contracts.

The integrated or joint occupancy phases created many safety problems primarily centered on the fact that too many employees of various contractors were crowded into areas with little or no coordination of efforts. This problem area seemed to exist because of:

(1) Poor communications between the Corps of Engineers and Associated Weapons System contractors.

(2) Lack of cooperation between these contractors.

(3) The opportunity afforded each contractor to blame the other for the conditions that exist.

In the early beginning, coordination between safety personnel of all agencies concerned was little in evidence, but as the project progressed and more personnel became involved, this cooperation increased and produced successful results. At all times the Corps of Engineers and SATAF did cooperate and had a willingness and desire to resolve problems. This was particularly true in the areas of safety as demonstrated by the issuing of joint operating procedures signed by the Area Engineer and SATAF Commander. Working closely together, the Corps of Engineers, SATAF, the Martin Company and associated contractors

formed an overall integrated safety committee; at each complex, a safety committee management group worked closely together, both in procedure preparation and field activities. As previously stated, these efforts produced results, although variances in Agency contracts created many problems for the Corps of Engineers and SATAP.

Leavell-Scott & Associates, the prime contractor for Contract DA-5919, had a frequency rate of 4.78 per million manhours, which compared favorably with other missile projects, as did their severity rate of 0.11. There were several basic causes which account for but do not justify the accidents which did occur.

(1) Except for prevention of major accident, it seemingly failed to impress its subcontractors and its own superintendents, foremen and supervisors with the necessity and importance of preventing all accidents, or to associate and impress these persons with the direct connection between accident prevention, the meeting of production schedules and the resulting delays and dollar costs when accidents occur.

(2) The contractor's superintendents demonstrated a continuing practice of procrastination, and in many instances, failed to act unless directed by their higher office. Such direction was, of course, brought about by the Area Engineer as required.

(3) The contractor's safety engineers, though qualified, lacked the necessary authority to correct problems on the spot.

A costly property damage accident, although not chargeable to the Corps of Engineers, occurred on 8 April 1961 at Complex 1B. The Paul Hardeman Company, subcontractor for the American Machine and Foundry

Company, was lowering a 110-ton counterweight into Missile Silo No. 3. Apparently a mechanical failure of the hoist occurred when the load was approximately 30 feet above the missile silo decking. The counterweight, lower hoist blocks and cable dropped in the silo floor decking, damaging and disarranging them, binding and twisting floor structural members, duct work and wall mounted component equipment therein. A hoist drum and guard was hurled into the Propellant Terminal and caused considerable damage. A trailer 500 feet away was also damaged. The hoist was completely destroyed with pieces being thrown over a wide area, but there were no resultant personal injuries.

It must be stated here that the Corps Resident Engineer inspected the above hoist on 21 March 1961 and advised the SATAF Complex Coordinator office that the hoist was unsafe for use. Following this report, the hoist was inspected by engineers of AMF and Paul Hardeman, who, after checking, stated it appeared to be structurally sound. On 7 April 1961, the Corps Resident Engineer checked the set up and found the hoist to be improperly set and not properly rigged and advised the SATAF Complex Coordinator of this unsafe condition and recommended it not be used. On 8 April 1961, no action was taken by Paul Hardeman to change the rigging set up and when it was used for lowering the counterweight, it failed resulting in damages as described.

An accomplishment worthy of mention, was the preparation by the Area Safety Officer, Mr. Glenn Dobbins, and the publishing by the office of a booklet, titled "Safety Precautions and Information Concerning the Handling of Hazardous Gases and Liquids". This booklet was approved by Mr. W. L. Irvine, Chief, Safety Branch, CEFMCO. He

in turn gave the booklet CEBMCO-wide distribution and included much of the contents in the Safety Program, CEBMCO Manual ENGMA-385-1 dated 30 June 1961. Honorable mention is also due Mr. Max B. Mellner of Arthur D. Little, Inc., for his technical assistance, comments and suggestions. A total of approximately 175 copies were printed and distributed locally to Corps personnel, the Contractor, SATAF and their contractors. In turn, The Martin Company, through their Safety Engineer, requested and was granted permission to use part or all of the contents as applicable in their safety program.

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PART II -- GOVERNMENT COSTS

During the life of the Titan I program and in this history, Government costs have to be considered as a contributing factor to the overall contract costs. At Appendix F Tab 2 Page 6-22 is a chart indicating the costs over a period of time in 1961 and the cumulative total that entered into the Total Government cost to date of \$4,454,893.00. The Accumulative Cost Breakdown can only be shown following takeover by CEBMOO, 1 October 1960, as Omaha District did not furnish a complete cost breakdown for the Area.

(1) The first section of the breakdown, Appendix F Tab 2 Page 6-22 consisting of thirteen (13) items and chargeable to 802.1 funds, contributed to 57% of the total Government cost to date. The thirteen (13) items breakdown into the following factors:

a. Labor: Area strength, prior to Titan construction, was 23; at peak of construction under the Titan program, the total strength was 120. The large number of modifications, delays in shop drawing approvals and joint occupancy delayed the overall final completion dates to such an extent that it was necessary for the contractor to accelerate his work, making it necessary to spread thin the Government employees. Scarcity of labor and congested working conditions, due to joint occupancy, forced the contractor to work longer hours and staggered shifts and, during one period, the contractor was working 20 hours per day, 7 days a week. In order that maximum coverage could be given to the contractor's work, the Area was forced to work an excessive amount of overtime. Total cost of overtime, after CEBMOO

took over, was \$272,878.00 or 21% of total labor.

b. Travel and Transportation (Persons)

Only the costs after transfer to CEBMCO can be evaluated, as Omaha District did not break the costs down; therefore, it is not possible to give a true picture of the actual transportation cost. One item that is included within this area is the travel of new hires and their families. Since most of the personnel had been recruited prior to take over by CEBMCO, the only place this would be shown is in the overall Government cost.

The Ellsworth Area being located approximately 1,200 air miles from Los Angeles and the numerous trips that were made between the Areas, should give just cause for the amount of travel and per diem. Car rental while on TDY is included within this cost.

c. Transportation of Impedimenta:

This cost is applicable to the shipment of household goods, supplies and etc. The Ellsworth Area being geographically located as it is, approximately 450 miles from any large supply center, the cost of transportation of supplies is a major factor.

d. Rent, Communication Services and Utilities

The items that pertain to Ellsworth are telephone and teletype expenses and post office box rental. In order to expedite actions relating to shop drawings and shop inspection, it was often necessary to make extensive use of the telephone services.

e. Reproduction

This cost is for the reproduction expense generated by and for use of Area Office proper.

f. Other Contractual Services

This cost comprises all contractual services of an overhead nature not otherwise classified above. This minor cost is considered normal for a project of this magnitude.

g. Materials and Supplies

Office materials and supplies of an expendable nature are included within this cost. This cost is considered normal for a project of this magnitude especially since through growth to present proportion this is a comparably new office.

h. Vehicle Expenses

Ellsworth Area purchased its own vehicles and the cost for maintenance and repairs is also included within this cost. Road construction and poor road conditions gave cause for constant maintenance of the vehicles. During the past year, the State highways were partially closed to two of the sites due to new road construction. The Martin Company has publicly pointed out that detours and bad road conditions have given cause for delays and additional cost for vehicle maintenance.

i. Suggestions and Awards

Negligible

j. Mobilization Amortization

This cost is pertinent to Area Offices incurring mobilization costs prior to construction, necessitating amortization of these costs over a specified period of time when construction starts. The costing for this item took place prior to CEBMCO take over and the Omaha District only shows this within the overall cost.



k. Technical Support Billings

This is costs incurred from the supporting Districts for services performed by their Technical Divisions, excluding Real Estate but including supply, legal and safety functions. This cost is considered normal for a project of this magnitude.

1. (Other) Direct to Line Items

Within the framework of this cost are such items as nonexpendable office equipment and such services as laboratory tests, soils and materials tests, construction surveys, inspection and other type of I & C 802.1 costs not provided for in the structure of accounts.

(2) Architect-Engineer Inspection

Contract costs contributed to 16% of the total. The following is a list of the Architect-Engineer contracts for the Ellsworth Area:

United Testing Lab	-	Inspection and Testing of the PLS
TEMCO	-	IBM Type Reporting
DMJM & A	-	Approval of Shop Drawings
Zep Aero	-	Inspection and Testing of the PLS
J. T. Banner	-	Design of Support Facilities

(3) Costs attributed to the Directorate and chargeable to 802.2 funds contributed to 15% of the total.

(4) Costs attributed to overhead and chargeable to the Area and the project contributed to 12% of the total.

RISE IN GOVERNMENT COST

Starting in January 1959, the Area increased its personnel strength from 23 to a maximum of 120 by April 1961. The additional hire gave

cause for a steady increase in Government cost. This cost is shown in Labor and Transportation.

After April 1961, transportation remained comparatively constant, varying only slightly from month to month. The rising cost of labor continued until September 1961 because of the accelerated program, and after this date, labor started diminishing very rapidly. The remaining Government cost, Shown in Tab 2, would be on a similar curve as labor.

Ultimate estimate for the Ellsworth Area is \$5,370,000.00.

#### AREA ACTION TO CUT COST

The use of credit cards for the purchasing of gas was held to a minimum by using the Air Force Service Station. This resulted in a savings of .17 cents per gallon.

Local procurement, through the Air Force, of paper products and janitorial supplies cut shipping cost and Omaha overhead.

The use of rental cars for TDY personnel was held to a minimum.

Reproduction was handled by the Area, thus cutting shipping cost from Omaha.

Long distance calls were held to a minimum by making more use of the direct lines and TWX.

Other transportation control measures were instituted.

Use of adoptable employee suggestions was aggressively pursued.

PART III -- SPECIAL EVENTS

INSPECTOR GENERAL INSPECTION

The Annual Inspector General Inspection was held 6 and 7 June 1961 by Colonel Clyde T. Townsend, Assistant Engineer Inspector General, EIG Field Office, Chicago, Illinois.

The report of this inspection, dated 29 June 1961, was forwarded to the Area Office through channels. This report stated that the inspection consisted the Annual General Inspection for Fiscal Year 1961, and that a general rating of Excellent was awarded. There had been no inspection of the Area since transfer to CEBNCO. In general, the IG stated that all activities of the Ellsworth Area Office were considered to be conducted in an adequate and proper manner. The inspection included coverage, in varying detail, of the organizational elements of the office and all related functions. All personnel on duty at the time of the inspection were afforded the opportunity to present complaints, but no complainants appeared. Several items of minor irregularities and deficiencies were immediately corrected. At Colonel Townsend's exit interview with the Executive Officer, he stated that in his opinion the Area was doing an excellent job in implementing the instructions, policies and guidance furnished in this difficult and urgent ICBM program.

VISIT OF MAJOR GENERAL KEITH R. BARNEY, 25 and 26 JULY 1960

On 25 and 26 July 1960, Major General Keith R. Barney, Missouri River Division Engineer, visited Ellsworth Air Force Base with Mr. C. C. Houlehan, MRD Buildings and Utilities Section. The purpose of

their visit was a Field Inspection of Auxiliary Sites Construction at Ellsworth Air Force Base.

The visitors were met by Colonel Edward W. Smith, Jr., Area Engineer, and then taken on a visit to see construction at Complexes 1A, 1B and 1C. They discussed the construction and were very satisfied that all sites were 6 to 9 per cent ahead of schedule.

VISIT OF LT. GENERAL WALTER K. WILSON, JR.,  
CHIEF OF ENGINEERS, 15 AUGUST 1961

On 15 August 1961, Lt. General Walter K. Wilson, Jr., accompanied by Brig. General William R. Shuler, MRD Engineer, Colonel T. J. Hayes, Commanding Officer, CEBMCO, Colonel Carlin H. Whitesell, Director Titan I, Colonel Harry G. Woodbury and other visitors visited Ellsworth Air Force Base and the Area Office.

General Wilson and party were met by the Area Engineer and his staff, along with key personnel from the Base and SATAF. The itinerary for the visit was as follows:

1100 hours	Arrive Ellsworth Air Force Base, South Dakota
1100 - 1110 hours	Meet Base Commander
1110 - 1140 hours	Briefing, Room 202, Base Operational Building
1140 - 1240 hours	Travel to Complex 1B (Hermosa)
1240 - 1415 hours	Lunch and Inspection of Complex
1415 - 1515 hours	Travel to Ellsworth Air Force Base
1515 - 1530 hours	Critique
1530 hours	Departure

The purpose of General Wilson's visit was the inspection of Titan I ICBM facilities being constructed. Lt. Colonel Edward W. Smith, Jr., Area Engineer, gave General Wilson a briefing covering over-all progress of sites, joint occupancy, Propellant Loading Systems, Cost of project, modifications, safety, finances of facilities and other significant problems.

Lunch was served at Site 1B with Mr. Leavell and other key personnel of Leavell-Scott & Associates, key Area personnel and key SATAF representatives.

Upon his departure, General Wilson expressed that he was well satisfied with the progress being made and the relationship with the Air Force.

VISIT OF MEMBERS OF THE OFFICE OF SECRETARY OF DEFENSE

1 and 2 MARCH 1961

On 1 March 1961, Ellsworth Air Force Base and the Area Office was visited by Mr. Alan I. McCone, Special Assistant for Installations (AF) and members of Office, Secretary of Defense, with members from the Departments of Army and Air Force and CEBMCO. Following is a list of names and positions of visitors:

OFFICE OF SECRETARY OF DEFENSE:

Mr. Alan I. McCone, Special Assistant for Installation (AF)

Mr. John Beard, Director of Construction

Mr. Philip M. Risik, Production Specialist

DEPARTMENT OF THE AIR FORCE:

Brig. General Harold K. Kelley

Deputy Director of Construction

Brig. General Joseph E. Gill, Hq. BMC

Colonel A. T. Phillips

Colonel C. E. Testi, Hq. ARDC

Colonel William D. Alexander, Hq. AFEMD

DEPARTMENT OF THE ARMY:

Brig. General James B. Lampert,

Director for Military Construction, OCE

Colonel Frank T. Koisch, Chief,

Missile Construction Branch, OCE

Colonel T. J. Hayes, Hq. CEEMCO

Colonel C. H. Whitesell, Hq. CEEMCO

The purpose of the visit was to review problems raised by ICBM Base Construction contractors before House Sub-Committee on Military Construction Appropriations, with emphasis on the following criticisms of Government procedures:

(A) Delay in settling and processing payments for contract charges.

(B) Infeasibility of administering contract charges within terms of fixed price contract, particularly with respect to "impact" costs.

(C) Alleged Air Force interference with full exercise of Contracting Officer authority due to over-surveillance.

(D) Air Force control of funds and veto power over Contracting Officer determinations.

(E) Lack of coordination between design and construction agencies.

Briefing included coverage of change order policies and procedures between BMC, BMD and CEBMCO with respect to the following:

- (A) Determination of necessity (including function of Change Order Control Board).
- (B) Design responsibility and coordination.
- (C) Responsibility for preparing Government estimate
- (D) Settlement of time due or acceleration
- (E) Determination of impact cost
- (F) Funding

On 2 March 1961, a briefing for Mr. McCone and his party was conducted at the SATAF, with the Area Engineer, Lt. Colonel Smith and key members of the Area staff assisting in the presentation.

The presentation was specific as requested with charts and statistical details presented to the degree practicable with respect to number of claims outstanding, disparity between contractor and Government estimates, extent of partial payments, general reasons for non-settlement and elapsed time since submittal. Funding details also were given, as was percent ICBM program status with consideration to outstanding contract settlements.

Following the visit, Mr. McCone and members of the team expressed the following:

That construction progress at Ellsworth was highly satisfactory and degree of cooperation with contractor and SATAF excellent.

Mr. McCone and Mr. Heard both expressed the opinion that

they were well satisfied with the situation at Ellsworth and were highly pleased with the construction progress.

VISITS OF GENERAL A. C. WELLING, CG AND LATER  
DEPUTY FOR SITE ACTIVATION BSD

General Welling visited the Ellsworth Area on various occasions. On all visits he was met by the Area Engineer and his staff, given a conducted briefing of status of construction and visits to the complexes. On his last visit to Site 1A, he was well pleased with the briefing given to him by the Resident Engineer, Mr. Otto Steffens, and he wrote a letter of appreciation through the Area Engineer to him.

VISIT OF MR. ALLAN McCONE, DEPARTMENT OF DEFENSE, 23 AUGUST 1961

Mr. Allan McCone, Department of Defense, Special Assistant for Installations (AF) and Mr. John Long, Special Consultant to Labor, Assistant Secretary of Air Force for Material, visited Ellsworth Area on 23 August 1961. Their visit to Ellsworth was primarily concerned with labor relation aspects. The Area was represented by the Labor Relations Officer at the briefing concerning labor relations activities. Neither made any adverse comments concerning Corps of Engineers functions and activities.

OTHER VISITORS

Mr. Phillip W. Morgan, Chief Counsel for Minority, McClellan Committee, visited Ellsworth Air Force Base on 10 March 1961 to investigate alleged uneconomical and/or coercive practice of Labor Unions



representing different crafts on missile construction jobs. During his visit, Mr. Morgan conferred with SATAF representatives and representatives of the Ellsworth Area Office jointly to review existing Union - Management relationships. Mr. Morgan was particularly interested in investigating IBEW and Iron Workers prevailing practices. He interrogated the prime contractors' representative separately. Mr. Morgan's main focus of inquiry was directed toward ascertaining whether or not either the electricians union or the iron workers union was engaged in coercive tactics such as feather bedding, slowdown activities and the like to force contractors to pay overtime premium rates.

Mr. Morgan visited the Ellsworth Area again on 12 September 1961, for the second time during that year. This visit was primarily focused upon Minuteman collective bargaining negotiations. Mr. Morgan did, however, question representatives of the Martin Company and the Labor Relations Adviser for SATAF concerning the current status of Labor Relations matters as they relate to Titan I Missile Construction and the I & C phase.

Mr. James Miller, Assistant Solicitor, (Davis-Bacon Div.), U. S. Department of Labor, visited Ellsworth Area on 5, 6, and 7 September 1961. He was primarily interested in the relation to problems concerning realistic prevailing wage rates for dozer operators and other related classifications. The primary emphasis was upon the Minuteman Contract, but Mr. Miller's investigation also involved a rather extensive review of Titan I contractor payrolls. He reviewed many of the prime contractor's payrolls and a substantial number of subcontractor payrolls (which contained equipment operator classifications) were

investigated. No adverse comments were made concerning the status  
of these contractor payrolls.

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PART IV -- RECOGNITION AND AWARDS

During the period that this history encompasses, many employees performed faithful and outstanding service. It is not possible to give each and every one a special award for his performance, but the Area Engineer and his staff expresses to all the employees, their sincere and grateful appreciation for a job well done.

During this period, individual recognition was given to certain deserving personnel. These are as follows:

- 2 - Twenty year Corps of Engineer Service Pins
- 8 - Ten year Corps of Engineer Service Pins
- 1 - Letter of Commendation
- 1 - Letter of Efficiency
- 18 - Letters of Appreciation

At the phase out of this Area on 31 March 1962, the following number of recommendations for awards have been processed for award consideration:

- 31 - Certificate of Achievement
- 2 - Army Commendation Medal
- 2 - Air Force Commendation Medal
- 10 - Sustained Superior Performance

Lastly, it is interesting to note that there were five (5) Employee Suggestions submitted over this period. From these were received:

One check for \$135.00

Three Thank You Letters

As of this writing, one is still outstanding

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APPENDIX F

SECTION VI - REFERENCES

<u>TAB NR.</u>	<u>TITLE</u>	<u>PAGE NR.</u>
1.	CUMULATIVE ACCIDENT SUMMARY OCTOBER 1959 THRU 28 FEBRUARY 1962	6-20
2.	COST ANALYSIS REPORT - CEBMCO FORM 47	6-22

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C U M M U L A T I V E   A C C I D E N T   S U M M A R Y

OCTOBER 1959 thru FEBRUARY 28, 1962

GOVERNMENT PERSONAL INJURY EXPERIENCE

<u>Year</u>	<u>ManHours</u>	<u>Non-Disabling</u>	<u>Disabling</u>	<u>Fatal</u>	<u>Days Lost</u>	<u>Frequency</u>	<u>Severity</u>
1960	142,162	4	0	0	0	.00	.00
1961	228,584	10	1	0	6	4.37	0.03
1962	<u>15,680</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>.00</u>	<u>.00</u>
TOTAL	386,426	16	1	0	6	2.58	.01

CONTRACTOR PERSONAL INJURY EXPERIENCE

1960	1,725,310	409	*8	0	*168	4.63	0.10
1961	2,908,754	341	15	0	370	5.16	0.13
1962	<u>54,098</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>.00</u>	<u>.00</u>
TOTAL	4,688,162	750	23	0	538	4.90	0.11

GOVERNMENT-CONTRACTOR COMBINED PERSONAL INJURY EXPERIENCE

1960	1,867,472	413	*8	0	*168	4.28	0.09
1961	3,137,338	351	16	0	376	5.10	0.12
1962	<u>69,778</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>.00</u>	<u>.00</u>
GRAND TOTAL	5,074,588	766	24	0	544	4.73	0.11

\* Includes 1 Personal Injury from Oct. 1959 + 10 days lost time - Contract DA-5683

CUMMULATIVE ACCIDENT SUMMARY (Continued)

ARMY MOTOR VEHICLE ACCIDENT SUMMARY

<u>Year</u>	<u>Total Miles Driven</u>	<u>Number of Accidents</u>	<u>Frequency Rate</u>	<u>COSTS</u>	
				<u>Army</u>	<u>Other</u>
1960	467,509	0	0	0	0
1961	736,992	4	0.54	792.00	1040.00
1962	<u>28,229</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>TOTAL</b>	1,232,730	4	0.32	792.00	1040.00

PROPERTY DAMAGE

<u>Year</u>	<u>No.</u>	<u>Govt., Contr., &amp; Private</u>
1960	5	3076.00
1961	3	2549.00
1962	<u>0</u>	<u>0</u>
<b>TOTAL</b>	8	5625.00

FIRES

<u>No.</u>	<u>Govt. &amp; Contr.</u>
2	2524.00
0	0
<u>0</u>	<u>0</u>
2	2524.00

Tab Nr-1  
Page Nr-6-21

R E P O R T

PERIOD ENDING

31 December 1961

%	A P R I L	%	M A Y	%	J U N E	%	CUM AFTER TAKEOVER	%	CUM TO DATE	%
							1,300,804			
							37,886			
							28,130			
							43,622			
							7,380			
							6,036			
							38,299			
							80,451			
							150			
							- -			
							66,994			
							215,631			
							37,060			
							1,862,443	6.2	2,483,676	4.7
							575,523	1.9	728,855	1.4
							2,437,966	8.1	3,212,531	6.1
							187,579	0.6	702,124	1.4
							2,625,545	8.7	3,914,655	7.5
							319,687	1.1	540,238	1.0
							2,945,232	9.8	4,454,893	8.5
							29,994,967		52,386,323	