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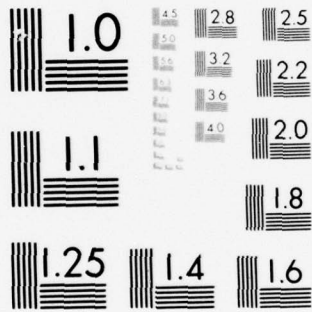
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INDIVIDUAL STUDY PROGRAM

OSHA IMPACT ON MINUTEMAN DEPLOYMENT
OPERATIONS

STUDY PROJECT REPORT
PMC 76-2

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle)		5. TYPE OF REPORT & PERIOD COVERED
6. OSHA IMPACT ON MINUTEMAN DEPLOYMENT OPERATIONS		Student Project Report, 76-2
7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(s)	9. PERFORMING ORG. REPORT NUMBER
10. JOSEPH R. ZALESKI	11. Nov 76	12. 39 p.
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
DEFENSE SYSTEMS MANAGEMENT COLLEGE FT. BELVOIR, VA 22060		
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE
DEFENSE SYSTEMS MANAGEMENT COLLEGE FT. BELVOIR, VA 22060		76-2
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		13. NUMBER OF PAGES
		36
		15. SECURITY CLASS. (of this report)
		UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)		
UNLIMITED		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
SEE ATTACHED SHEET		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE: OSHA IMPACT ON MINUTEMAN DEPLOYMENT OPERATIONS

STUDY PROJECT GOALS:

To determine the extent to which OSHA has been integrated into the technical, personnel, contractual, and cost aspects of the Minuteman Assembly and Check Out (ACO) Program, and the resulting impact.

STUDY REPORT ABSTRACT:

(Occupational Safety and Health Act)
The purpose of this study project was to determine the status of integration of OSHA into USAF contractor operations and to evaluate the resulting impact. Minuteman ACO contracts were selected due to their sequential nature which provided a unique opportunity to study similar programs at various stages in their life cycles.

The study methodology was to systematically iterate the gathering of data and conduct analysis, leading to the formulation of conclusions from which implications of the results could be drawn. The report is organized to separate the listing of specific excerpts of controlling directives from the analysis, conclusions, and implications. This separation permits rapid investigation of later sections by those with specific knowledge of the subject, while providing detailed background information for the layman.

Analysis of the data supports the conclusions that the impact of OSHA is largely invisible due to the interaction of subtle bureaucratic pressure on program managers' "sole responsibility". This situation exists despite Federal Law and official implementation directives from the highest levels specifying explicit responsibility and authority. The classic nature of the situation leads to the implications that hyperrationality distorts perception: "sole responsibility" is mutually incompatible with the complex environment of military program management; and the actual need represented by the situation may be for unassailable credibility rather than "sole responsibility".

Key Words: OSHA Impact; Govt. Contracts.

NAME, RANK, SERVICE	CLASS	DATE
Joseph R. Zaleski, Maj., USAF	PMC 76-2	November 1976

OSHA IMPACT ON MINUTEMAN DEPLOYMENT
OPERATIONS

Study Project Report
Individual Study Program

Defense Systems Management College
Program Management Course
Class 76-2

by

Joseph R. Zaleski
Major USAF

November 1976

Study Project Advisor
Mr. Wayne J. Schmidt

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This study project report represents the views, conclusions and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management College or the Department of Defense.

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EXECUTIVE SUMMARY

The purpose of this project was to determine the impact of the Occupational Safety and Health Act of 1970 (OSHA) on the Deployment phase of the Minuteman alteration program. The sequential nature of these modification programs provided a unique opportunity to study similar programs at various stages in their life cycles, thereby providing great breadth of data.

The report is organized to separate the listing of specific excerpts of controlling directives from the analysis, conclusions and implications. This separation permits rapid investigation of the later sections by those with specific knowledge of the subject, while providing detailed background information for the layman.

The analysis supports the conclusion that the impact of OSHA is largely invisible due to subtle bureaucratic pressure to ignore adaptive mechanisms overcoming the "sole responsibility" for management. This is an example of the classic program management dilemma. The study indicates that without exception, official directives from the highest levels, issued since 1970, acknowledge the responsibility and authority of the Department of Labor for establishment and enforcement of safety standards for contractors. Implementing policies are diverse, obscure, and conflicting.

The implications of the study and the dilemma are that hyperrationality distorts perception, "sole responsibility" is mutually incompatible with the complex environment of systems

acquisition, and unassailable credibility rather than "sole responsibility" may be the actual need in military program management.

SECTION I

PRESENT SITUATION

Minuteman missiles are deployed in hardened dispersed silos at six bases in the midwest and upper-midwest states. As a part of the program to modernize ICBM forces, an integrated major modification program of the Minuteman Wings has proceeded sequentially through two wings (Cheyenne, Wy; Minot, ND), is currently in progress at one wing (Grand Forks, ND), is in the contracting cycle at one wing (Great Falls, Mt), and is in the planning stage for the two remaining wings.

These modifications are performed by contractor personnel under the management of a Site Alteration Task Force (SATAF) assigned to the ICBM Program Office (PO) (formerly the Minuteman PO). The ICBM PO is in the Space and Missile Systems Organization (SAMSO) of the Air Force Systems Command (AFSC). This study project has as one of its goals the determination of the present situation with regard to the integration of the OSHAct of 1970 into this program.

SECTION II

INTRODUCTION

On April 28, 1971, Congress declared, through the enactment of the Williams-Steiger Occupational Safety and Health Act of 1970, their purpose: "...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..." (7:3).¹

This act places upon essentially all employers a "general duty and responsibility to provide a place of employment free from recognized hazards and to comply with occupational safety and health standards promulgated under the Act..." (7:4).

The purpose of this report is to determine the impact of OSHA on the deployment phase of the Minuteman alteration program and from analysis of this impact, draw conclusions and provide implications which can form a point of departure in pursuing similar future programs.

¹This notation will be used throughout the report for sources of quotations and major references. The first number is the source listed in the bibliography. The second number is the page in the reference.

Specific Goals

Choice of the deployment phase of the Minuteman alteration program which is an Air Force managed, contractor performed, field effort, permits analysis of completed contracts, on-going contracts, negotiated contracts where the field effort has not yet begun, and contract planning for downstream wings. This unique situation presents an excellent opportunity to determine how OSHA is integrated into the effort, the extent of OSHA integration, and the impact this integration has had on technical, personnel, contractual and cost aspects of the program. These data will provide basic information from which conclusions can be drawn and implications for future programs can be stated.

Definitions

"'Person' means one or more individuals, partnerships, associations, corporations, business trusts, legal representatives or any organized group of persons." (3:2)

"'Employer' means a person engaged in a business affecting commerce who has employees, but does not include the United States or any State or political subdivision of a State." (3:2)

"'Employee' means an employee of an employer who is employed in a business of his employer which affects commerce." (3:2)

"'Occupational safety, and health standard' means a standard which requires conditions or the adoption or use of one or more

practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places for employment." (3:2)

"Occupational Safety and Health Act of 1970" means the Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596. These terms will be used interchangeably and may be abbreviated OSHA or OSHAct. The abbreviation, OSHA, may also be used to mean the Occupational Safety and Health Administration.

Scope

The scope of this report was chosen as the most illustrative of current efforts within the USAF as related to the impact of the OSHAct 1970 on activities of contractors engaged in government projects on government owned facilities. The report includes pertinent excerpts from regulatory documents, appropriate contracts and correspondence on the subject. Further insight is provided from structured interviews with personnel from the contractor, Department of Labor, Hq USAF, Hq AFSC, ICBM PO and USAF General Counsel's Office. Analysis of the data leads to conclusions which are generalized to form implications for the Minuteman program and program management in general.

Limitations

The bibliography does not contain specific references to names and titles of quoted correspondence, nor does it contain

direct identification of personnel interviewed. These omissions were considered by the writer to be essential to maintain an atmosphere of "non-attribution" and provide the desired objectivity of data.

Organization

This report is structured to include a recitation of pertinent quotations from applicable sources in Section III. This grouping of data serves to consolidate the reference material in one place, classified by source. This enables someone with no knowledge of the subject to have appropriate sections of the definitive documentation for immediate familiarization. Personnel familiar with the subject matter may find that going directly to Sections IV, V and VI and using Section III only for reference as needed is the most efficient method of using this report.

SECTION III

STUDY PROJECT METHODOLOGY

The approach selected for this project was to formalize an objective and through a systematic set of iterative steps search out, analyze, categorize, and evaluate data; to provide an interpretative framework; and then form conclusions, and discuss the implications of the conclusions (4:33).

The report is organized to reflect this approach. The preliminary pages acquaint the reader with the subject matter, the present situation and the area to be explored. In the methodology section, the existing documentation has been summarized and synthesized into subcategories which reflect elements of internal homogeneity and discord. The analysis section presents the various views of the subject with regard to the meaning of the documentation. These views were extracted from documentation and substantiated through structured interviews conducted both face to face and telephonically. The conclusions section attempts to tie together the documentation, prevailing views of people directly involved with the written directives and the relation of this combination to the environment in which this relationship falls. From these conclusions, implications are formulated with regard to the present situation and for future programs.

Federal Law and Department of Labor Documents

For purposes of this report, it is sufficient to restrict the review of Federal Law to the statutes that; establish the OSHA responsibilities, establish the employer and employee responsibilities and provide the impetus for Air Force inclusion of OSHA compliance in contractual agreements.

The OSHAct, which became an official part of national labor law on April 28, 1971 is the definitive statute. Standard rules and regulations applying to employers and employees emanate directly from this law. The key sections of this act establish purpose, implementation, and enforcement responsibility.

"Congress declared the purpose of the Act, and hence the Labor Department's and OSHA's mission: ...to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources..."

(7:3). In the Act, Congress laid out specific requirements for the OSHA implementation of the program. Those most important to this report are listed below:

- "(1) Establish employer and employee responsibilities.
- (2) Set mandatory job safety and health standards.
- (3) Provide an effective enforcement program." (7:3)

Duties of employers and employees are explicitly stated in Section 5 of the Act:

- "(a) Each employer
 - (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to his employees;
 - (2) shall comply with occupational safety and health

standards promulgated under this Act...

(6) each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct." (3:4)

Mandatory standards and changes are published in the Federal Register. Inspection and enforcement procedures are also spelled out in detail in the Federal Register.

In order to carry out the purpose of the Act, the Secretary, upon presenting appropriate credentials to the owner, operator, or agent in charge, is authorized (1) to enter without delay and at reasonable times any factory, plant, establishment, construction site, or other area, workplace or environment where work is performed by an employee of an employer; and (2) to inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein and to question privately any such employer, owner, operator, agent or employee. (3:4)

OSHA inspectors are delegated the authority to issue citations if the workplace is found to be in noncompliance. These citations may lead to penalties up to \$1,000.00. Additionally, legal action, through the nearest Federal District Court, may be taken to abate conditions of imminent danger. (7:14)

The Federal Law thus establishes a closed loop of responsibility, standard development, inspection, enforcement and penalty for noncompliance all within the Department of Labor.

Department of Defense and Air Force Directives

A survey of AF regulations indicated that those of chief importance to this study are AFR 127-12, Air Force Occupational

Safety and Health Program, AFR 127-13, Responsibilities for the USAF Aerospace Safety Program, and AFR 66-2, Single Manager for Modification, Major Maintenance and Test Programs on Air Force ICBM Systems.

During this survey, the existence and direct application of DoD Instruction 1000.18, June 29, 1976, Federal and State Occupational Safety and Health Inspections and Investigations at Contractor Workplaces on Department of Defense Installations, was discovered. Appended to this document is Defense Procurement Circular #75-1, 30 July 75, Contractor Relationships with Respect to the Occupational Safety and Health Act of 1970 (OSHA).

It should be noted that in addition to the DoD Instruction listed above being relatively recent, AFR 127-12 is dated 4 June 76. Therefore, these documents were not in existence during the contracting effort for the early Minuteman update efforts.

AFR 127-13 "establishes US Air Force policy and designates the Air Force activities responsible for implementing the USAF Aerospace Safety Program" (9:1). This regulation is dated 15 May 1973, and makes no reference to OSHA. "Each major commander: ... (1) develops, documents, and implements a comprehensive and aggressive accident prevention program. (2) Ensures that all appropriate subordinate commanders formalize a consolidated accident prevention program... (6) Develops a control system to ensure appropriate followup and corrective action of deficiencies identified as a result of safety program activities." ... (9:10). "Ensures that safety considerations are an

identified and integral part of each major modification, maintenance, and test program, including positive control and single manager responsibility assignments for the conduct of these activities." (9:3)

AFR 127-12 "establishes the Air Force policy and designates organizations responsible for managing an occupational safety and health program as required by Section 19 of the Occupational Safety and Health Act (OSHAct)..." (8:1). This regulation continues to state "OSHA authorizes the development and enforcement of standards to insure safe and healthful working conditions for employees in the private sector, and also contains provisions applying to Federal agencies and their employees." (8:2). The primary purpose of this regulation then, is to prescribe policy pertaining to all "military and civilian personnel (except contractors) paid from Air Force appropriated or nonappropriated funds" (8:2, 3). This regulation acknowledges the statutory authority of DoL to inspect any place of employment operated by an AF contractor on or off base and to conduct accident investigations involving contractors (8:8). The regulation further states that "Responsibility for providing safe and healthful working conditions rests with the employer. When the contractor is the employer, the responsibility is his or hers" (8:9). It should be noted that nowhere in the regulation is the enforcement of compliance with OSHA safety standards addressed. DPC 75-1 attached thereto, however, does make this clear. "OSHA assigned the Department of Labor (DoL) broad new

responsibilities to assure safe and healthful working conditions ... enforcement of OSHA policies and standards is the responsibility of DoL" (8:14). The DPC further states, "the burden of compliance with OSHA rests with the DoD contractor. DoD components will contract on the assumption that contractors are complying with OSHA" (8:15).

AFR 66-2, which is dated 7 October 1966, directs the use of a single manager for all aspects of major alteration programs on operational AF ICBMs by any agency other than the user (10:1). This regulation was written primarily as a corrective measure for the situation which had previously existed in programs of this nature. Confusion is the single word which most closely describes the pre-AFR 66-2 modification programs. This state of affairs was irrefutably confirmed by the multiple fatality accident at a Titan site undergoing modification at Little Rock, Arkansas in 1965 (11).

As of this writing AFR 66-2, dated as above, is still current. This regulation was contractually binding on all completed Minuteman A&CO contracts, is on contract at Grand Forks and is in the contractual documents prepared for Great Falls. It is anticipated that the regulation will also be incorporated in the downstream contracts.

This regulation states that the single manager command "...assumes responsibility of the single manager for the safe and efficient conduct of each technical activity to be accomplished" (10:3). It continues "...a chief of the single manager

command on-site contingent will be assigned with sole responsibility for safely accomplishing the technical activity in coordination with the implementing agencies and using command.

His responsibilities will include:

- (1) Technical activity work force
- (2) Quality of work associated with technical activity
- (3) Technical safety (relative to the technical activity)
- (4) Industrial safety (personnel engaged in technical activity)" (10:3).

DoD Instruction 1000.18 "establishes Department of Defense (DoD) policy for Federal and State occupational safety and health inspections and investigations at contractor work places on DoD installations..." (6:1). The instruction reaffirms the definition of employer as applied to the Department of Defense by stating, "DoD contractors operating from DoD or privately owned facilities located on or off DoD installations are "employers" ...and are subject to enforcement authority by Federal and State safety and health officials as set forth below" (6:2). The instruction further establishes that Federal OSHA officials may conduct inspections and investigations of accidents on DoD contractor workplaces.

Contractual Documents

A review of contracts used at the various Minuteman Wings previously completed, underway, and in the contracting cycle revealed no significant differences in the sections applicable

to the scope of this report. For simplicity, sections of Contract F04701-73-C-0001, which was used at Minot, ND, will be quoted, and may be considered to be equally applicable for all contracts for the Minuteman A&CO effort addressed in this report.

Paragraph 1.2.2 of Attachment 1, the Contract Statement of Work (SOW) states "This work shall be accomplished on a Category "B" situation as defined in AFR 66-2... " (12:4). Paragraph 3.2.4 of the SOW requires the system safety engineering program to be in accordance with Annex 1-D of the SOW. Although the term "system safety engineering" is used in this paragraph, all safety requirements levied by the contract are specified in Annex 1-D.

This annex describes the requirements for conducting a safety program in accordance with the Air Force Regulations and Standards to insure the safe and efficient accomplishment of the Wing III Force Improvement Program (12:24).

The scope of the annex is briefly addressed in paragraph 2:

This annex describes the efforts necessary to insure that weapon systems, personnel, and general industrial safety have been incorporated into the Wing III A&CO Program to be accomplished under this contract (12:24).

Additional requirements are listed in the paragraphs below.

3.1.2. Conduct the planning and safety analysis activities for the A&CO effort, utilizing to the maximum extent possible previous plans and analyses (12:24).

3.1.4. Provide on-site safety surveillance and monitoring of operations as necessary to insure implementation of safety requirements (12:24).

Annex 1-D also directs compliance with SAMSO Exhibit 62-16E with exceptions and modifications as specified in the contract. SAMSO Exhibit 62-16E is dated 1 March 1967, and is titled General Base, Missile and Systems Safety Standards, WS-133.

The general scope of the Exhibit is:

This Exhibit provides basic industrial, missile and system safety criteria and standards for construction and modification of MINUTEMAN facilities by contractors or agencies other than the using command (13:1).

Paragraph 3.3 prescribes contractual considerations.

Subparagraph 3.3.2 is of prime importance to this report:

The SATAF Commander/Single Manager is responsible for the safety program in its entirety. Each SATAF staff agency and all personnel, both military and DoD employees, will insure that safety requirements are not compromised. Contractor and/or implementing agency personnel will be responsive to the SATAF Commander to insure compliance with contractual safety requirements and this exhibit (13:3).

Although SAMSO Exhibit 62-16E was used on the Wing III contract, it has been superseded by SAMSO Regulation 127-7, 30 August 1974, SPECIFIC MISSILE AND SYSTEMS SAFETY STANDARDS, WS 133. The scope of the new regulation and the contractual considerations with regard to the SATAF Commander remain essentially unchanged. It is important to note that the only other Air Force Safety document referenced by the contract is AFM 127-201, Missile and Space Safety Handbook, and this document is listed as an administrative and reference directive. Reference to the OSHA Act is limited to acknowledgement of its

consideration in the implementation of Supplemental Agreement SA P00045, dated 27 August 1974.

Neither USAF manning of the SATAF Safety Office nor contractor direct safety manning at the field offices has been contractually altered as a direct result of OSHAct 1970.

Correspondence

Documents reviewed in this category include some 35 individual pieces of data including Air Force letters between various levels of command (from the SATAF level through the AFSC level), memoranda for the record, safety surveillance reports, discrepancy/corrective action reports, briefing charts, contractor letters, ground accident reports, AF Form 1000 (Suggestion), and joint safety working group minutes. This correspondence covers a period from August, 1974 through 1 June 1976. All of the individual correspondence deals with problems encountered in the area of occupational safety during the A&CO phase of Minuteman contracts. The key issues represented are: (1) What is the extent of the SATAF commander's responsibility for occupational safety; (2) what directives apply and are the controlling directives; (3) the intent of specifically contested requirements in the contract; and (4) suggested means of improving the situation.

A great deal of the correspondence centers around the USAF Aerospace Safety Program Requirement for all commanders to report accidents/incidents. The SATAF commander is by definition subject to these requirements. As the single manager represent-

ative, he has the "sole responsibility for safely accomplishing the technical activity..." (10:3), and is responsible for the safety program in its entirety" (13:3). However, the contractor is charged with "conducting a safety program in accordance with Air Force regulations and standards to insure the safe and efficient accomplishment of the... Program" (12:24).

Additionally, "Responsibility for providing safe and healthful working conditions rests with the employer. When the contractor is the employer, the responsibility is his or hers" (8:9). The contractor is further bound by OSHA to "furnish each of his employees employment and a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees"; and to "comply with occupational safety and health standards promulgated under this Act" (7:4). Reporting requirements for employers experiencing accidents are established by OSHA and are mandatory (7:16). After much debate and correspondence, the following management understandings were issued in March of 1975 as Minuteman policy.

- a. The SATAF Commander is responsible for insuring that the ...(contractor) implements the Minuteman A&CO Safety Program called out in the statement of work and described in ...(contractor) documents.
- b. No specific written accident/incident reports are contractually required from the ...(contractor), except as outlined in paragraph 5a below.
- c. The (contractor) is responsible for implementing and managing the Minuteman A&CO Safety Program.
- d. The SATAF Commander, the (contractor) manager and their respective staffs must work together as a management team to insure proper program implementation and mutually agree-

able methods of providing management visibility.

The following paragraph was also included in this correspondence:

The SATAF Commander discharges his AFR 127-13 responsibilities by insuring that the (contractor) implements the contractual Minuteman A&CO Safety Program and by having an appropriate SATAF Safety Program for USAF personnel.

Approximately one year after the issuance of the above policy, a change was made to AFR 127-4 (which covers accident/incident reporting) requiring additional reports for programs managed by SATAFs. AFR 127-4 is not on the contracts in question. In response to this change in AFR 127-4, additional correspondence was generated prescribing policy to the SATAFs and also requesting a rewriting of AFR 66-2 "to alter safety responsibility to be more in line with an AFSC Supplement to AFR 127-13 which states emphasis should be on the Administrative Contracting officer requiring that the contractor have an acceptable safety program, rather than developing and directing the safety program for the contractor." This policy guidance continued "the role of the single manager in the enforcement of safety provisions should parallel his actions in the enforcement of other contract provisions. Through periodic surveillance he should ascertain that the contractor is implementing and adhering to the safety program defined by the contract. The frequency of surveillance should be determined by the SATAF Commander using his judgment in reference to the scope and severity of the activity."

Other correspondence to AFSC requested, in part, a resolution between the AFR 66-2 assignment of total responsibility to

the SATAF commander and the enforcement of OSHA standards being the sole responsibility of the Department of Labor.

In March 1976, an AF Form 1000 Suggestion was submitted by the writer to eliminate the duplication of OSHA and USAF personnel safety requirements, by eliminating all references to the personnel safety requirements other than those established by OSHA. It recommended revising the appropriate documents to reflect this change and, eliminating all military, Civil Service and contractor personnel currently involved in enforcement of the deleted USAF standards. It suggested determining the cost savings of such a move by submitting an Alternate Request for Proposal to the contractor to price as a part of the preparation for evaluating the contractor's proposal for the next downstream wing. Submittal of this contractor's proposal was scheduled for May 1976.

In June 1976, an item appeared in the Joint Safety Working Group Minutes of a downstream wing which stated that the on site Administrative Contracting Office (ACO) had reviewed a SATAF letter to the contractor which outlined safety reporting requirements, and it was the belief of the ACO that the letter could pose contractual problems. A letter which detailed the differences between the SATAF request and the contract was being transmitted to headquarters for resolution.

As of this writing, there has been no change to AFR 66-2, no answer to the request for resolution of the problem outlined in the JSWG minutes, and no evaluation of the AF Form 1000.

However, DoD Instruction 1000.18 and AFR 127-12 have been issued in the interim, and a response from AFSC was issued to the request for a change to AFR 66-2. This response was well staffed throughout AFSC and dispatched to SAMSO with the following direction:

"...to this end, USAF ASPR Supplement Clause 7-5000.10 is included as a provision of the contract for both prime and subcontractors. This clause calls out either AFM or AFR 127-101 as the safety standard to be met. The SATAF commander enforces AFM/AFR 127-101."

and in a later paragraph:

Paragraph 6.1c, of the same supplement, (AFSC Supplement 1 to AFR 127-13) clearly charges SAMSO with monitoring "flight, ground, explosives, and missile accident prevention programs for on base contractor operations". The ground safety portion includes industrial safety and health provisions of AFM/AFR 127-101 via USAF ASPR Supplement Clause 7-5000.10.

The final two paragraphs of the letter state:

SATAF commanders schedule and cause to be performed the number and kind of safety inspections which will assure that their safety plan is being effectively followed by all contractors.

Accordingly, we do not consider AFR 66-2 to be obsolete or find that it conflicts with AFR 127-12 and its AFSC Supplement.

SECTION IV

ANALYSIS

It is clear from the Federal Law/OSHA regulations that the DoL has been charged with the responsibility for promulgating safety standards and enforcing compliance with these standards by employers and employees. Equally clear is the DoD and Hq USAF recognition of these DoL responsibilities, and that contractors working on government owned facilities are employers under the purview of the Federal Law and therefore required to comply with the OSHA standards and subject to inspection/enforcement activities by OSHA.

It is in interpretation and implementation of these policies into ongoing programs where difference of opinion and perception of the situation appear. Combining existing data with the results of interviews with personnel at field, SPO, DoL, AFSC and Hq USAF provides at least three perceptions of the situation. These are briefly summarized for the field level, the program office level and the headquarters level.

The Field Level View

Review of the contract instrument and the correspondence from the field implementer (SATAF) indicate that at that level, the situation is perceived as one in which the contractor is required under the Federal Law to provide a safe and healthful working environment in accordance with OSHA standards and subject to OSHA inspection and enforcement activities, with appro-

priate citations and fines for violations. Accident/incident reporting is done under OSHA rules. Simultaneously, the SATAF is charged with sole responsibility for the safety program in its entirety, and must report all accidents/incidents through prescribed AF channels. The SATAF must also insure that the number and kind of safety inspections required to carry out his plan are conducted. The contractor has no requirement to make accident/incident reports to the SATAF other than verbal notification at the time of an accident and written reports to the property officer in the case of damaged government property. As a result of this situation, the contractor's field office is staffed to perform the functions required by the contract, the requirement to interface with the SATAF, and to comply with the OSHA. The SATAF safety office is staffed with the same number of personnel as it was prior to the transfer of responsibility for safety to the contractor and enforcement to OSHA. The resulting situation is relatively stable until an accident/incident occurs, at which time the conflicting requirements generate actions that usually lead to mass confusion and increased hostility. The SATAF Commander perceives himself as being solely responsible, but with no authority to discharge that responsibility.

The Headquarters Level View

A review of the regulations and correspondence from this level would indicate that there is adequate guidance for the

performance of the field effort. There may be minor difficulties in the field, but the contract, OSHA, and AF regulations are clear and not in conflict, therefore it should be within the capability of the field commander to work out the remaining problems. Interviews indicated that it was the feeling at this level that any duplication or disagreements in the field on this matter would shrink to insignificance when compared with the potential problems arising from contemplated OSHA health standards specifying threshold levels for noxious fumes, etc. The headquarters concern was funding going into, or programmed to go into developing OSHA approved standards under Section 19, OSHA 1970, for AF personnel. The safety and health standards currently existing were viewed as the tip of the iceberg, with the anticipated standards forming the hidden part.

The Program Office Level View

Regulations and correspondence from this level seem to acknowledge that a problem does exist in the field and that action is required at the headquarters level to revise documents to bring about a resolution for the apparent existence of two agencies with "sole responsibility". Action at this level has been to request document clarification from the higher headquarters, and to stress working out management arrangements in the field to get the job done in the interim.

The apparent lack of effort to alter the contract language from the pre-OSHA wording to attempt to reduce contract cost

and SATAF safety office manning was addressed in the interviews. Personnel interviewed at this level initially maintained that there had been no increase in contract price due to OSHA since all standards were previously met or exceeded by the pre-existing AF standards. There was feeling however, that it would be advantageous to eliminate the contract requirement for the development of personnel safety standards and the enforcement of safety standards by contractors on their subcontractors. Reduction of the SATAF safety offices was also seen as being advantageous. Neither action was contemplated, however, because of two factors. First, it was felt by the personnel interviewed that the idea of the AF withdrawing from the development and enforcement and surveillance of safety standards applied to contractors on USAF sites was totally incompatible with the concept of "program management". Their question was "Can you imagine an Air Force program manager explaining to the headquarters a fatal accident which occurred on one of his sites for which he had no safety standards, no enforcement policies, no surveillance activity and no report of what happened?" Second, there was a feeling that the question of legal liability of the government for accidents occurring on government owned facilities while in pursuit of a government contract had not been resolved. So long as there was the possibility of the government being viewed as liable under these circumstances, there was not much chance of alterations to the current way of doing business.

None of the personnel interviewed except those from DoL had seen DoD Instruction 1000.18, Federal and State Occupational Safety and Health Inspections and Investigations at Contractor Workplaces on Department of Defense Installations. Several had heard of it and knew it was out, but did not want to comment with regard to its impact without having studied it and the implementing USAF directives. AFR 127-12, Air Force Occupational Safety and Health Program, is dated just 23 days earlier than DoD I 1000.18 and embodies the general principles of the instruction. Both of these documents make it clear that OSHA has the responsibility to develop standards and enforce them, but neither addresses whether USAF efforts will continue, be terminated, or modified.

SECTION V

CONCLUSIONS

From the analysis it becomes clear that a simple problem of implementation of existing directives, which was the writer's initial bias, does not exist. The problem which exists is far more complex than simply altering the contract to eliminate Air Force safety coverage and relying on the provisions of the OSHAct of 1970. The situation which exists can be viewed as a classic example of program management problems.

Directives exist at each level which clear up the problem for that level. Personnel have been placed in charge. Authority has been delegated and clear cut "sole responsibility" has been assigned. Staff agencies at each level review and comment on implementation of policy and provide expert inputs on matters of concern. The situation has thus been "covered" from a management sense, and no surprises are anticipated.

Such is the orientation of the "forces for maintenance (which) are conservative and attempt to prevent the system from changing so rapidly..." (2:117). However, if the intent of the Congress is to be implemented, and duplication avoided or eliminated, then "adaptive mechanisms are necessary in order to provide a dynamic equilibrium, one which is changing over time" (2:117).

If the AF Form 1000 Suggestion, referenced earlier, is used as an example of a change agent, the classic nature of the prob-

lem can be illustrated. This form, upon submittal, enters into a system designed to complete processing of suggestions, not a system designed to bring about change. As a result it is forwarded to an action agency, not designed to bring about change, but one designed to bring about completion of processing of the form. The logical agency is therefore the safety office. It could be the safety office at any level. The safety office is the unit expert on safety matters. Its job is to prevent accidents/incidents, and should they occur, investigate and report so that the situation can be prevented in the future. The effectiveness of the safety office is rated using criteria closely related to this cycle. This office is not rated on its performance as an "adaptive mechanism" instituting new procedures which implement Congressional mandates. And similar offices up the chain can avoid action while at the same time giving the impression of maintaining the "dynamic equilibrium" by promulgating directives which assign "sole responsibility".

That brings us to the Program Manager. He, by definition, has "sole responsibility". If the safety office has not briefed him on the proposed change, or if it has provided him with expert evaluation which is "conservative and attempts to prevent the system from changing so rapidly", he is well on the way to, at best, potentially duplicating a segment of his program and at worst, "surprised" when it is determined that he is not in compliance with the intent of the Congress.

If the safety office has briefed the Program Manager on

the shift in emphasis "necessary in order to provide a dynamic equilibrium", he is in basically the same dilemma cited above for the safety office. Since this is a safety matter, it would appear that higher headquarters' safety offices should be asked for guidance. But, as the preceding paragraphs and earlier sections of this report have shown, the result is correspondence and interpretation that indicates that no change is necessary; and from the standpoint of the safety expert, charged with preventing accidents, this is true.

For the Program Manager this is one more of the dilemmas characteristic of his job. He is "solely responsible" for accident/incident prevention, although others are charged with the same or similar responsibility. He is "solely responsible" for the management of his program, which inherently includes management of resources and therefore demands elimination of duplication. He is "solely responsible" for keeping his boss informed on the program so that surprises are kept to an absolute minimum. He is "solely responsible" for implementing hierarchal directives for his program, and to survive, he must be in tune with his environment, which includes the Congress which funds his program and which enacted the OSHAct of 1970.

The OSHA Impact on Minuteman Deployment Operations, similar to the concept of program management, is felt horizontally across all the functions. When viewed alone, out of the total program environment, it appears as a clear cut problem with definite solutions, requiring only implementation. Similarly,

program management appears to be a clear cut method for cutting through red tape to get directly to a problem and implement solutions.

When viewed simply as one element of the total program, the OSHA impact on this can easily be reduced to insignificance. For example, it has been estimated by ICBM PO personnel that the field safety program is about 3% of the total field program price, with OSHA compliance varying from zero, due to more stringent existing requirements, to 1.5% of this due to unnecessary duplication. In view of the perceived low return and high personal risk and personal effort required to alter present methods, the effective impact of OSHA on the Minuteman Deployment has been near zero because it has been largely ignored.

SECTION VI

IMPLICATIONS

It is interesting to note that a problem which appears so significant at the operating level can be reduced to relative insignificance at the strategic level of the system in question. That situation in itself seems quite logical. As shown earlier, OSHA impact on the Minuteman Deployment program is estimated to be between 0 and 1.5% of the total field effort price. Thus, when viewed in the context of the ICBM PO as strategic management level, it could be rather insignificant. But what happens when the environment is expanded to place the Minuteman system at the operating level and the Congress at the strategic level? "The Congress finds that personal injuries and illnesses arising out of work situations impose a substantial burden upon, and are a hinderance to, interstate commerce in terms of lost production, wage loss, medical expenses, and disability compensation payments." (3:1). The Congress feels that each individual accident/incident is important because of its contribution to the overall losses resulting from inadequate emphasis on safety. The specific implication here is that possibly the perception from a level within the environment results in what Arthur Herzog has called "hyper-rationality". "Hyperrationalist inductions tend to be incomplete because they ignore, or minimize, activity that is random, unplanned, unplannable. Contrary evidence, unanswered questions... are safely stored out of site..." (1.89).

A second major implication of this study relates to the position of the Program Manager. Throughout the documentation, correspondence, conversations and analysis presented, there has been a pervasiveness of the concept of "single manager" or "sole responsibility" implying that one designated person will be held answerable or accountable. This implies ineluctably that the matter in question is within one's power, or control. Yet, it has also been shown that no single manager has the power to control the Minuteman safety program. An equally good case can be made that no Program Manager has the "sole" power to control his program. The point is made clear by Stewart Thompson with an example from industry: "American Can of Canada Ltd. in 1972 announced in the newspaper the appointment of a 'Director of Environmental Affairs'. The person appointed, said the announcement, 'now assumes the total Company responsibility' for 'environmental affairs'. To appoint a person with 'total company responsibility' for anything is nonsense and does nothing in the long- or short-run other than discredit those so 'appointed' (5:180).

Mr. Thompson's contention is that the world is filled with vast complexities, and random, unplanned, unplannable events that cannot be organized, controlled or managed. That instead, progress must be made from the violent self education that follows a "surprise" which has unexplainably occurred (5).

An environment which is acknowledged to be complex, with an accepted degree of randomness, risk, and uncertainty, with

established organizational structures and hierarchal levels, is mutually incompatible with the assignment of "sole responsibility" to anyone for a program. Further, it appears that the actual need in military program management is not for a single individual with "sole responsibility", but instead for individuals with specific program knowledge, who are of unassailable credibility, to act as the bridges between certainty and uncertainty, planned and unplannable, present and future.

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