

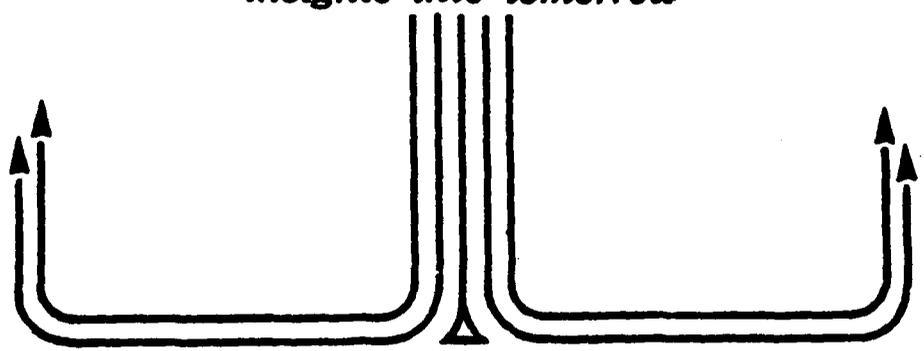
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ORGANIZATIONAL STRUCTURE FOR A
MOBILE ICBM COMBAT UNIT
MAJOR JAMES S. JOHNSON, USAF
MAJOR JOHN M. WEST, USAF 88-1390
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TITLE ORGANIZATIONAL STRUCTURE FOR A MOBILE ICBM COMBAT UNIT

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PREFACE

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The deployment of rail garrison (RG) Intercontinental Ballistic Missile (ICBM) systems within the Continental United States by the Strategic Air Command (SAC) has created a need for a review of current missile organizational structures to determine the most effective organizational structure for mobile missile systems. The Director of Concepts, Deputy Chief of Staff Strategic Planning and Analysis, Headquarters Strategic Air Command (HQ SAC/XOK) requested assistance from the Air Command and Staff College in the form of a student research project on the subject. This paper reviews HQ SAC/XOK's proposal, plus the current organizational structures being used for the SAC MINUTEMAN ICBM and U.S. Army PERSHING Intermediate Range Ballistic Missile, as well as the initial and later reorganized Ground Launched Cruise Missile structures. This paper will be submitted to HQ SAC/XOK and accepted for consideration and action in determining the final organizational structure for future mobile ICBM systems. *(Key words) guided missile, R*

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ABOUT THE AUTHOR

Major James S. Johnson enlisted in the Air Force in 1966 as an Electronic Warfare Technician. He was commissioned through Officers Training School in July 1975 after earning his Bachelor of Arts in Business Administration and Master of Science in Management degrees in off-duty education programs while stationed at RAF Bentwaters, UK. After commissioning, he was assigned to the 351st Strategic Missile Wing as a Missile Maintenance Officer. His next assignment was in 1980 with the USAF Inspector General as an Air Staff Training (ASTRA) Officer. In 1981 he was assigned to the 868th Tactical Missile Maintenance Squadron and was responsible for initial development of the maintenance training program for the Ground Launched Cruise Missile (GLCM). From 1983 until 1987 he was assigned to Headquarters, Tactical Air Command Directorate of Munitions as Chief of the Tactical Missile Systems Branch. Major Johnson completed Squadron Officer School by correspondence in 1976 and in residence in 1980. He is married to the former Mary Elizabeth Armistead of Mathews, VA.

Major John M. West enlisted in the Air Force in 1972 as a Chapel Management Specialist. He was commissioned through Officer Training School in 1975. His initial assignment was to the 321st Strategic Missile Wing as an Intercontinental Ballistic Missile (ICBM) Launch Officer. In 1978 he was assigned to the 1st Strategic Aerospace Division, Vandenberg AFB, CA as an ICBM Test Operations Officer in the TOP HAND Program. Upon completion of his assignment at Vandenberg, he was assigned to Headquarters, Tactical Air Command Directorate of Operations Training as Assistant Chief, Missile Training Branch. His tour at TAC was from 1981 to 1984. In 1984 he was assigned to Headquarters Allied Air Forces Central Europe, Ramstein AB, GE as the GLCM Strike Operations Officer. Major West holds a Bachelor of Science in Business Administration from Bryant College and a Master of Science Degree in Business Administration from United States International University. He completed Squadron Officer School by correspondence in 1978 and in residence in 1980. He completed Air Command and Staff College by correspondence in 1984. He is married to the former Bonnie Mae Silver of Littleton, NH.

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EXECUTIVE SUMMARY



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REPORT NUMBER 88-1390

AUTHOR(S) MAJORS JAMES S. JOHNSON AND JOHN M. WEST, USAF

TITLE ORGANIZATIONAL STRUCTURE FOR A MOBILE ICBM COMBAT UNIT

I. Purpose: To establish a wing organizational structure for a mobile Rail Garrison (RG) Intercontinental Ballistic Missile (ICBM) combat unit. The proposed structure will be based on personal experiences as well as the experiences of other personnel associated with present day mobile missile systems.

II. Problem: The strategic missile wing (SMW) organizational structure used for static ICBM units, e.g., MINUTEMAN, may not be the most effective structure for training/employment/deployment of a mobile missile system, e.g., PEACEKEEPER, rail garrison or small ICBM. Static units do not integrate the training of operators, security police, and maintenance personnel; each functional element is separately trained and managed.

III. Data: The United States Air Force, and in particular the Strategic Air Command (SAC), are presently preparing to deploy a mobile ICBM system. This system will incorporate the PEACEKEEPER ICBM and take advantage of the rail system for mobility--hence the name RG ICBM. One of the problems facing the SAC staff is how these new mobile ICBM units should be organized to most effectively accomplish their mission. There are two main schools of thought on this from the SAC staff; one being to organize along the traditional lines of the static MINUTEMAN system (functionally aligned), while the other proposal recommends they

CONTINUED

organize along "integrated crew" lines. Under the integrated crew concept personnel would be assigned day-to-day with the personnel they would go to war. As with any new system there are proponents of both wing structures. We have examined the SAC/XOK proposal for the integrated crew concept, while also looking at the SMW organizational structure used for the SAC MINUTEMAN ICBM's, the U.S. Army PERSHING Intermediate Range Ballistic Missile Battalion structure, as well as two Ground Launched Cruise Missile (GLCM) wing structures implemented by the United States Air Force in Europe (USAFE), initial and later reorganized. During the project we read a multitude of background information, talked with personnel who were involved with the mobile systems, and drew heavily upon our own experiences with the GLCM system.

IV. Conclusions: The "traditional" SMW organizational structure works well for a static, non-mobile system. However, when this same structure is applied to a mobile system the unique problems associated with mobility warrant a different unit organizational structure. GLCM demonstrated, painfully, what happens to a mobile weapon system organized along the traditional SMW structure. Reorganization was required to effectively meet mobile combat mission requirements.

V. Recommendations: We propose an organizational structure for the RG ICBM system that integrates all deploying personnel for an individual flight under a single commander (flight commander, or train commander, etc.). This creates a cohesive combat unit that trains, works, and fights together; builds an efficient team capable of anticipating flight needs, while increasing the utility of each flight member under the stress of combat conditions. This integrated flight will be much more capable of successfully accomplishing their critical mission.

Chapter One

INTRODUCTION

On 19 December 1986, President Reagan directed the United States Air Force to continue with the development of the PEACEKEEPER Intercontinental Ballistic Missile (ICBM) with the basic concept of mobility being a Rail Garrison (RG) System (5:1). The advent of mobile missile systems into the Air Force (AF) inventory have created a managerial challenge for major command staffs. The first AF mobile systems were deployed in the mid 1950's (MACE and MATADOR), but the operational scenarios for these systems did not require dispersal from their fixed operating locations (1:23). The organizational structure complexities created in a truly mobile missile system did not come into full view until the deployment of the Ground Launched Cruise Missile (GLCM) in the European theater of operation starting in late 1983 (2:1).

Once again the AF is challenged with the prospect of deploying a mobile missile system, albeit this time within the confines of the Continental United States. The RG ICBM system has tasked the Strategic Air Command (SAC) staff with the development of an organizational structure to support it. There presently exists within this staff two distinct "trains" of thought, one being to organize along the traditional strategic missile wing (SMW), (MINUTEMAN and PEACEKEEPER non-mobile silo-based ICBM), unit structure, while the other is to create a unit organization based on an "integrated" crew concept (5:1). The purpose of the integrated crew concept is to create an integral combat team in which all assigned personnel would train, work day-to-day, as well as deploy for combat in a single element--the flight.

While at the present time no decision on the organizational concept for RG has been made, it is apparent from the background information we have received from SAC, that no single concept is dominate. In our opinion, by reading "between the lines" it is evident that parochialism may be the biggest stumbling block faced by the SAC staff in actually making a decision on this critical issue.

Whatever the final answer is for the organization of the RG system, one set of factors remain constant throughout the entire

complex equation: all available information must be gathered, all opinions listened to, personal preferences for a particular organizational structure must be justified, and parochialism, perhaps the most difficult of all, eliminated. The task faced by the SAC staff is monumental with the outcome of their decisions having direct impact upon the combat capability of all future mobile ICBM systems. Our goal in this study is to assemble the relevant historical information and to couple this with individual experiences to shed light upon what we believe will be the most effective system organization for the RG missile system. This study, which will include our final proposal, will be submitted to Headquarters, Strategic Air Command, Deputy Chief of Staff for Strategic Planning and Analysis, Director of Concepts (HQ SAC/XOK) for serious consideration in the decision on RG organizational structure.

Chapter Two

PROPOSED HQ SAC/XOK RG ICBM ORGANIZATIONAL STRUCTURE

The decision to continue development of PEACEKEEPER RG by President Reagan lead to HQ SAC/XOK developing a strawman proposal for the wing organization (5:1). Within this proposal they have broken with the traditional SMW structure believing this type of unit organization is not the most efficient for a mobile system. In its place, HQ SAC/XOK proposes an integrated crew concept for RG. What follows is a brief description of why they feel the SMW organization will not work and a discussion of their proposal.

The major flaw with the SMW organization, as seen by HQ SAC/XOK, is it does not allow for one critical event to occur on a regular basis. The critical event is the unit will not go to war in the same way it trains on a day-to-day basis. With the SMW organization, all personnel are assigned to their particular directorate (i.e. operations, maintenance, or security) and the daily interface between these different directorates is minimal, if at all. With the advent of the mobile missile system, HQ SAC/XOK believes a system different than the SMW organization is warranted. They base their concept for integrated crews on the following conditions (6:--):

-RG will have approximately 20 people required to disperse the train onto the rail system. The same people who disperse with the train will also defend it, relocate it, repair it, and launch its missile.

-All personnel assigned to the train will be under the direction of a train (flight) commander. He is responsible for all dispersal activities and must coordinate these with wing/flight personnel swiftly and effectively in times of tension and/or war.

-Integrated training in defense of the system, operations, launch procedures, and maintenance will be required to insure the flight can effectively accomplish its assigned mission.

-Personnel that do not train together on a daily basis will not have the necessary unit cohesion to make them successful. It is imperative that the personnel who will fight together in war,

train together in peacetime if they are to be an effective fighting combat unit. Only then will they know the capability of the people within the unit and through this knowledge develop into a well--coordinated and disciplined combat unit.

HQ SAC/XOK has stated there is a historical precedent for integrated crews and cites such examples as the World War II heavy bombers as well as the bomber and tanker crews today. These units have a basically integrated structure, i.e., different specialties assigned to a dedicated crew that performs their mission together under a single commander (6:--). The concept for the use of integrated crews is not a new one as far as the Air Force is concerned. However, it is a system which has not been used in the organization structure of the SAC ICBM units.

The HQ/SAC XOK proposal for the organization of the RG unit flows along the lines of the integrated crew concept (Figure 1). The following describes the organization as well as the responsibilities of assigned personnel as outlined in their proposal (6:--):

The flight will become the basic operating entity assigned to the RG. The mission of the flight is to disperse, secure, maintain, and launch their missile. To be effective, the flight of approximately 20 people must be as proficient as the present two-person MINUTEMAN crew required to launch their ICBM. If this concept of proficiency is to be successful without an increase in the units total manpower, some of the day-to-day responsibilities must be assumed by the RG flights. Daily tasks such as security of the weapons storage area (WSA) would become the responsibility of the flight "on-duty", vice having dedicated manpower assigned to perform this duty. This is the only feasible way to have the integrated flight concept work without the costly and perhaps impossible to obtain manpower increases.

Authors Note: As stated in the above paragraph, the flight being as proficient as the two-person MINUTEMAN launch crew must be properly interpreted. This comparison should be made from a functional vice operational standpoint. Within the MINUTEMAN system, the functions of operations, maintenance, and security are handled autonomously with only the two-person crew necessary to launch the missiles. However, in RG each of these three functions will contribute directly and simultaneously to mission accomplishment. Therefore, the direct correlation of a two-person MINUTEMAN launch crew to a 20 person RG flight may be misleading.

The HQ SAC/XOK proposal is organized with the following personnel and responsibilities:

FLIGHT COMMANDER (FC)

The focal point of the entire operation. The FC is the commander of flight personnel whether in garrison or deployed. The FC is responsible for the training, readiness, morale, and welfare of his entire flight. It is his responsibility to ensure the crew is ready to perform the mission. The FC reports directly to the RG Squadron Commander (Figure 2). The position of FC is critical and demands a person capable of combat leadership. Presently there is no comparable SAC position.

DEPUTY FLIGHT COMMANDER (DFC)

The DFC is the second in command of the integrated flight. This position allows personnel a familiarization period prior to becoming a flight commander. The daily responsibilities of the DFC is to insure all required training is accomplished. Thus the DFC also serves as the flight training officer.

CIVILIAN/MILITARY TRAIN OPERATIONS PERSONNEL

These people operate or drive the train. Presently no in-depth study has been conducted on their integration into the flight or their training requirements. The decision to use military vice civilian personnel to operate the train has not been made.

LAUNCH CONTROL OFFICERS

The Launch Control Officers are the same entity as the present day MINUTEMAN crew. These personnel are ultimately responsible for launching the missile once authority is received. Their training would be similar to the training presently received by ICBM combat crews, with the added requirement of being dispersal qualified.

INTEGRATED CREW SECURITY COMPONENT

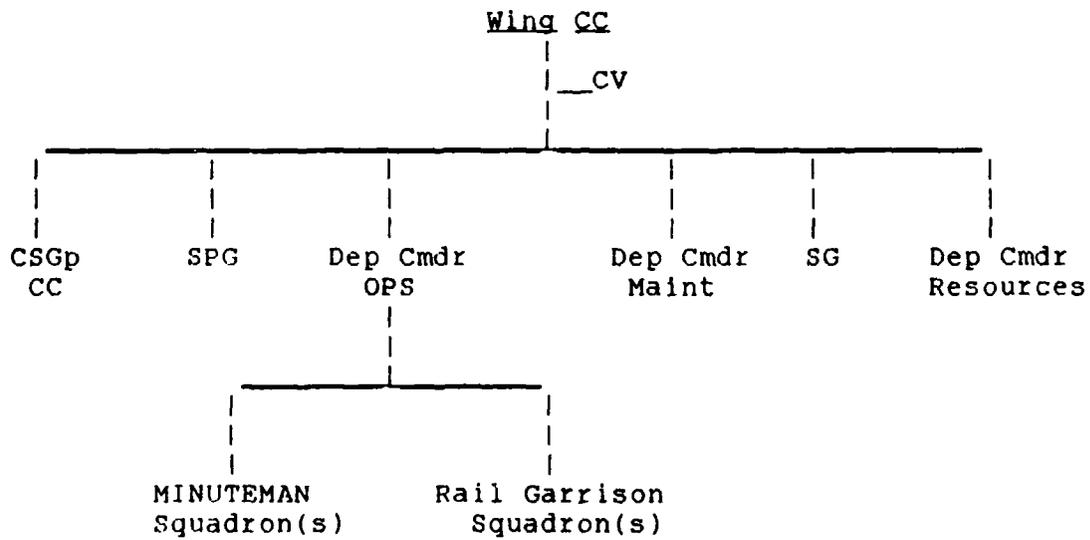
These personnel perform security for the system. The initial training of these personnel is accomplished by the security police. The number of security personnel who would actually disperse to the field with the system has not been determined at this time.

INTEGRATED CREW MAINTENANCE COMPONENT

These personnel perform many of the tasks which are normally assigned to the separate directorate of maintenance for direct maintenance support. There would be a Field Maintenance Supervisor (FMS) assigned to the FC with personnel assigned to

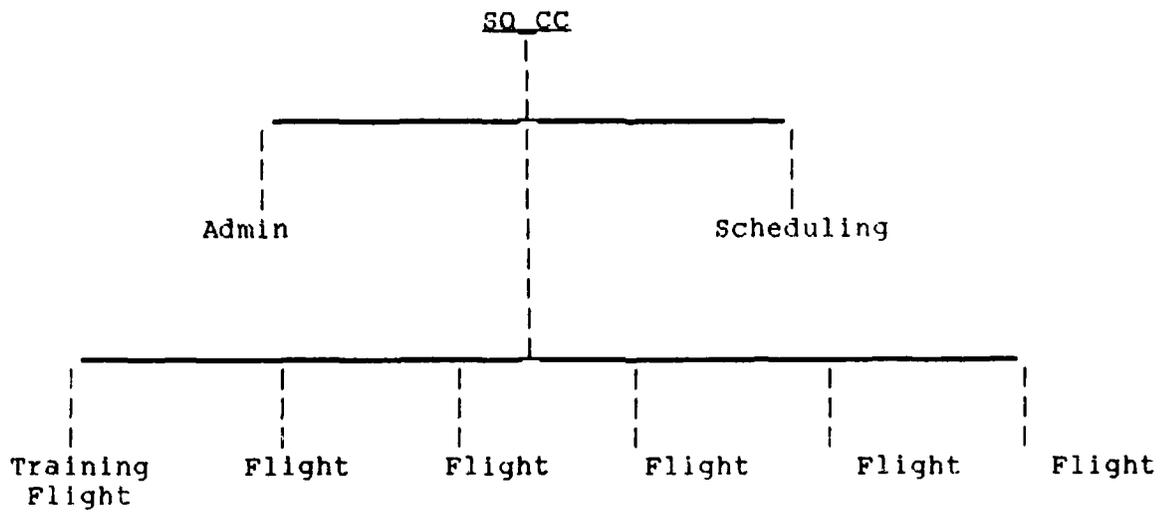
him who perform maintenance on the system. The extent of maintenance to be performed by the crew maintenance component would most likely consist of periodic maintenance inspections, item replacement, as well as initial trouble analysis. This component would also be responsible for maintaining the dispersal equipment e.g., tools, storage items, as well as War Reserve Support Kits (WRSK). Initial personnel training would be the responsibility of the existing maintenance training function.

The above information provides a superficial description of the HQ SAC/XOK proposal for manning under the integrated crew concept. This is by no means the final organization of the integrated flight. Much work remains to be accomplished to ensure the appropriate personnel, number, and specialties, are assigned to each flight. The basic premise which should be remembered at this point is that the HQ SAC/XOK community is pursuing the integrated crew concept as the best possible manning and organization for the RG missile system. The following three chapters will provide insight into the MINUTEMAN, PERSHING, and GLCM organizations.



HQ SAC/XOK Proposed RG Wing Structure

Figure 1



HQ SAC/XOK Proposed RG Squadron Structure

Figure 2

Chapter Three

MINUTEMAN ICBM WING ORGANIZATION

The MINUTEMAN wing organization utilizes the traditional SMW system (4:7-7). This structure meets the requirements necessary to accomplish mission requirements for static ICBM systems. The Deputy Commander for Operations (DCO), Deputy Commander for Maintenance (DCM), Deputy Commander for Resources (DCR) organizations in conjunction with the Combat Support Group Commander (CSG) and Security Police Group Commander (SPG) provide all aspects of mission support (see Figure 3).

The mission requirements for a static system, while requiring some daily coordination between the depute staffs, actually need little direct interaction to be effective. With the MINUTEMAN organization all personnel are assigned to a particular directorate (i.e. operations, maintenance, or security) with no type of integrating training conducted; as it is not required. In a non-mobile system this is acceptable as many of the tasks are non-dependent upon the other directorates. Examples of this are events such as (4:7-7 - 7-9):

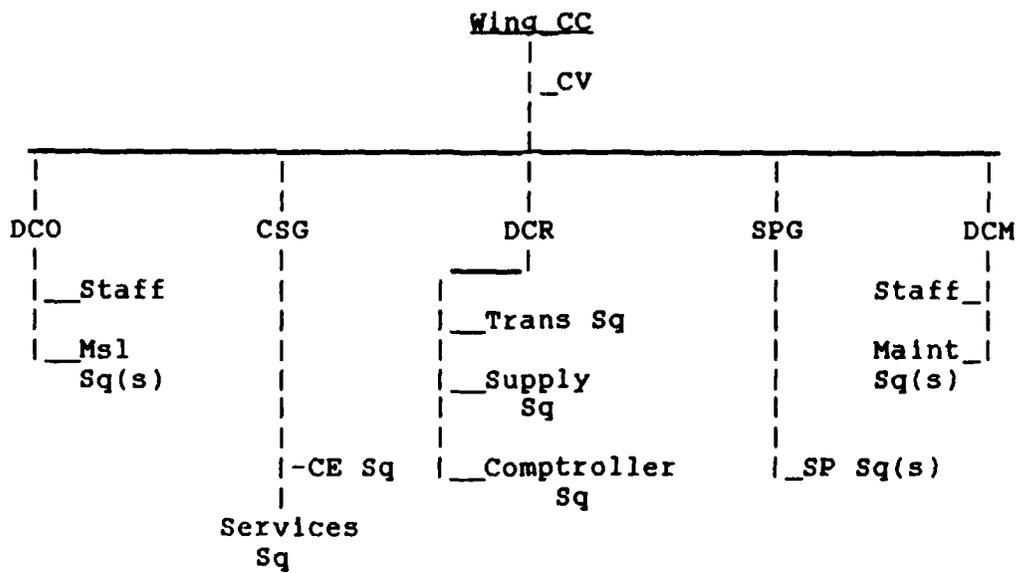
- Missile launch crews are located in isolated launch control centers with no required action by maintenance or security for them to carry out their prime mission--launching missiles.

- Maintenance occurs at remote sites away from the missile launch crews. After only minor security related contact with the operations crew, maintenance becomes an isolated function being conducted at a remote site.

- Security personnel, when required, respond to a distant, geographically set location with no interface being needed from either maintenance or operations to defend the system. Here again, the only interface with launch crews is authentication and/or communications patching.

- Any problems which occur while working within the MINUTEMAN organization which cannot be settled by the crews themselves are sent "up the chain" to be resolved by squadron or wing personnel. The personnel within each directorate are truly independent and the nature of their mission allows them the flexibility to function in this manner. Basically each depute has its "own"

piece of the mission and day-to-day operations can readily transition to a war-fighting posture with little to no interface.



Typical Strategic Missile Wing Organizational Structure

Figure 3

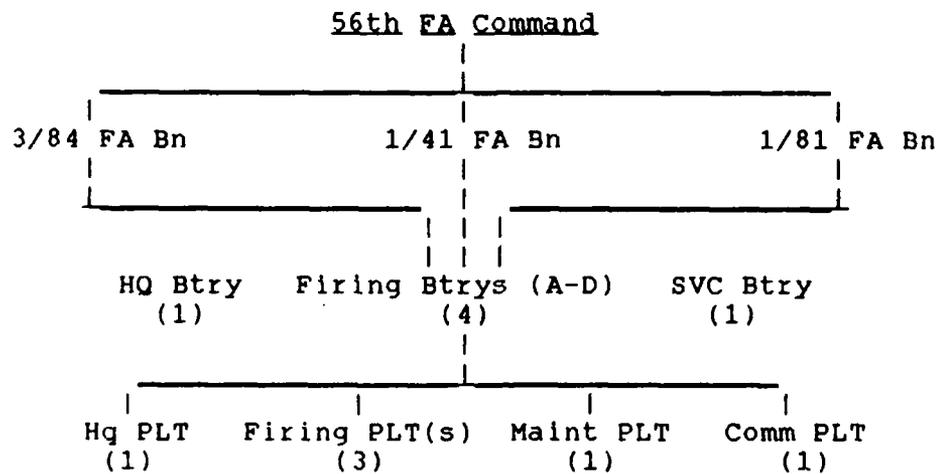
Chapter Four

PERSHING ORGANIZATIONAL STRUCTURE

The U.S. Army PERSHING Intermediate Range Ballistic Missile (IRBM) organization parallels the traditional artillery organizational structure. The information in this chapter was obtained from interviewing U.S. Army personnel at Air Command and Staff College previously assigned to PERSHING units (17:--).

The basic structure begins with a brigade at the highest echelon. The brigade consists of approximately 4500 personnel and is under the direct command of a brigadier general. The brigade is subdivided into three field artillery battalions of 1500 personnel each commanded by a lieutenant colonel. The next echelon is the firing battery commanded by a major. Each battery consists of 12 Missiles and approximately 250 personnel. The batteries are further subdivided into firing platoons containing 3 Missiles, approximately 33 personnel, and commanded by a captain (see Figure 4).

The firing platoon is the basic combat unit of the PERSHING System. Each platoon is a self contained unit with all required specialties necessary to support and launch the missiles. As previously mentioned, the platoon is commanded by a captain. He is in direct command of all personnel assigned to the platoon regardless of specialty. The basic platoon remains intact whether deployed or in garrison. The commander is responsible for all personnel in the platoon throughout their assignment to the unit. The commander is also responsible for all equipment assigned to the platoon. The only exceptions are the separate infantry, signal, and support battalions which provide security, communications, and maintenance support beyond the capabilities of the firing battery. Although not assigned directly to the firing platoon commander, these direct support elements fall under the direction of the platoon commander when providing support, and they train with their assigned firing platoons during all phases of field training exercises.



Typical PERSHING Organizational Structure

Figure 4

Chapter Five

GLCM ORGANIZATIONAL STRUCTURES

The initial organizational structure for GLCM was almost identical to the SAC SMW organizational structure (9:7; 10:3; 11:4). The units were organized along the SMW structure with operations, maintenance, and security each having their distinct roles (Figure 5). We believe this initial structure resulted primarily from the almost total utilization of SAC missileers in initial development and deployment of the weapon system. This organizational structure remained in effect from initial operational commitment (IOC) at RAF Greenham Common, UK in December 1983 until it was changed by direction of the Commander-in-Chief of United States Air Force in Europe (CINCUSAFE) in March 1987 (8:iii).

The premise, that the initial organization structure did not work properly, was based on the results of local exercises, as well as North Atlantic Treaty Organization (NATO) Tactical Evaluations and nationally conducted inspections, i.e., inspector general, Director of Special Weapons, Nuclear Weapons System Safety Group. These less than satisfactory results caused numerous discussions throughout all levels of the command resulting in Headquarters, United States Air Force in Europe (USAFE) initiating formal action in September 1986 to review the GLCM organization. This was accomplished through the direction of the GLCM General Officer Action Review (GOAR)(8:ii).

The GOAR is a group of USAFE senior officers who meet at regular intervals and review the progress being made on GLCM deployment in the European theater. It is a steering group with membership from all headquarters staff functions supporting an operational wing (i.e. operations, logistics, security, etc.). At the September 1986 meeting the GOAR directed an independent analysis be accomplished to review the current GLCM organization and determine if there was a more effective way to organize the wings to accomplish the mission (8:ii). Transition-to-war had become the "buzz word" within the GLCM community; now increasingly skeptical as to whether present SMW-type wing structure allowed this to happen in a timely and effective manner.

The effort to find a more effective wing organization was

led by HQ USAFE Deputy Chief of Staff for Plans and Programs, GLCM Program Management Office (HQ USAFE/XPG). They, along with other involved headquarters staff agencies, developed a strawman organization for GLCM, one they believed was better suited to accomplish the mobile mission. During this time, the numbered air forces headquarters (3rd, 16th and 17th) tasked the GLCM wings for their inputs into the proposal. This entire review was accomplished in less than three months. While this appears to be a relatively short time, it must be pointed out that many agencies involved with the program had been advocating change, almost from the beginning.

The results of the unit inputs and the efforts of the headquarters staff resulted in two different concepts, one referred to as--integrated flights--the other--dedicated flights. What follows is a brief description of the two plans, results of the December 1986 GOAR meeting, and the final plan approved by CINCUSAFE.

The plan for integrated flights was the most drastic of the two proposals. The proposal called for those personnel who would disperse with the flights to be permanently assigned to a respective flight and flight commander. One of the advantages put forth by the proponents of this integrated flight concept was it gives the flight commander day-to-day authority commensurate with his wartime responsibilities. The flight commander would have the necessary personnel and equipment which to perform the wartime mission, if it became necessary. A third advantage to this proposal was it would build cohesion within the flights. Finally, it would actually create a decentralization of decision making as the flight commander would be responsible not only for his personnel but they would also be responsible for the equipment assigned to them. Included in the disadvantages were the following factors. Did GLCM flight commanders have the leadership skills necessary to handle the day-to-day responsibilities brought forth by the new concept of integrated flights (people/equipment)? The flight commander could become burdened down with administrative duties and thus take him away from his wartime role. Other factors such as facilities, unknown career risks for personnel, as well as unknown costs were also cited.

The second proposal called for a system of dedicated flights. This proposal stated the personnel designated to disperse with a specific flight would be assigned to that flight commander only during specific training/dispersal periods. This was also true of the mission equipment. During the remainder of the time, the personnel and equipment would revert back to their functional areas much as they were under the original organization structure of GLCM. As with the integrated flight concept there were advantages, as well as disadvantages to this

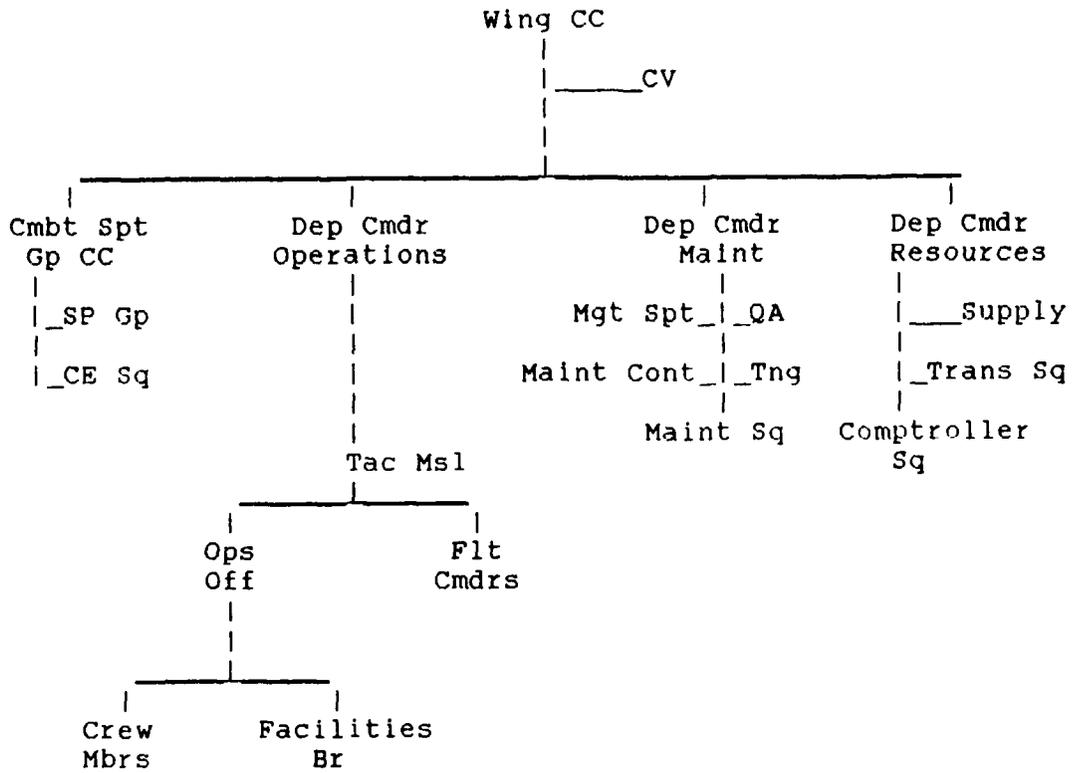
proposal. We will first review the advantages of the flight system. It was felt this dedicated flight concept was more of an evolutionary change, vice the revolutionary change associated with integrated flights. It must be remembered that GLCM is a new system and as such, problems are bound to surface. The concept of dedicated flights would not be as drastic a change as other proposals yet would still meet the needs of the system to accomplish its mission. Secondly, personnel would not lose their functional organization identity. Instead of being assigned to an operations function (flight commander), Maintenance personnel would still be assigned to maintenance organizations, security police to their group, and transportation to the DCR. Third, the flight commander would have operational control of personnel during specified times and as such, would be able to accomplish the training necessary to effectively disperse and operate under field conditions. Finally, the proposal allows for the pooling of people assigned to certain functions in order to better accomplish their day-to-day mission. This is especially true within the logistics and security police communities. The disadvantages of the dedicated flight system are: First, and perhaps foremost, there is no day-to-day direct line of command and control between the flight commander and the personnel he will disperse with in a wartime environment. Second, flight personnel are assigned to the flight commander in name only and functional supervisors are not always responsive to the needs or requirements of the flight commander. Third, the flight commanders do not actually have an input into maintenance priorities of their assigned equipment. Finally, the flight commander has no choice in the assignment of personnel in his flight. He must utilize those personnel assigned to him by the functional supervisors.

The above two paragraphs have given a brief description of the integrated and dedicated flight proposals. On 16 December 1986 the GOAR met and recommended that the GLCM units be organized in accordance with the dedicated flight concept (8:iii). There were a number of differing views as to the viability of going this route and after considerable discussions, the GOAR decided to present the proposals for dedicated and integrated flights to CINCUSAFE for consideration. This was done on 19 December 1986 and the decision was made to proceed with the dedicated flight concept (see Figure 6). However, there was one stipulation made which was part of the integrated flight proposal. The flight commander would now be included into the rating chain for personnel "dedicated" to a flight. After the flight commander rated the report it would revert back to the functional area to which the individual is assigned. This provides the flight commander with an input into the performance evaluation of personnel assigned during the specified periods.

This chapter has provided a brief look at the reorganization

of GLCM and the two schools of thought which dominated the discussions and decisions, those being dedicated versus integrated. The reorganization was implemented in the summer of 1987 and it is too early to determine the effectiveness of the reorganization.

As a sidelight, on 8 December 1987 President Reagan and Secretary General Gorbachev signed the historical INF Treaty at the Washington Summit (3:1). Based on the assumption that the United States Senate ratifies the treaty, GLCM and PERSHING will be removed from Europe. The effectiveness of the GLCM reorganization may not be fully evaluated as a result of the treaty. What should come forth from the reorganization effort is the fact that GLCM was originally structured using a non-mobile SMW unit organization; the need to change became apparent to all involved in the program. Their experiences and knowledge should be considered in developing the structure of any future systems and not simply forgotten because the particular system was part of an arms reduction package.



Initial GLCM Wing Organizational Structure

Figure 5

GLCM WING STRUCTURE DEDICATED FLIGHTS

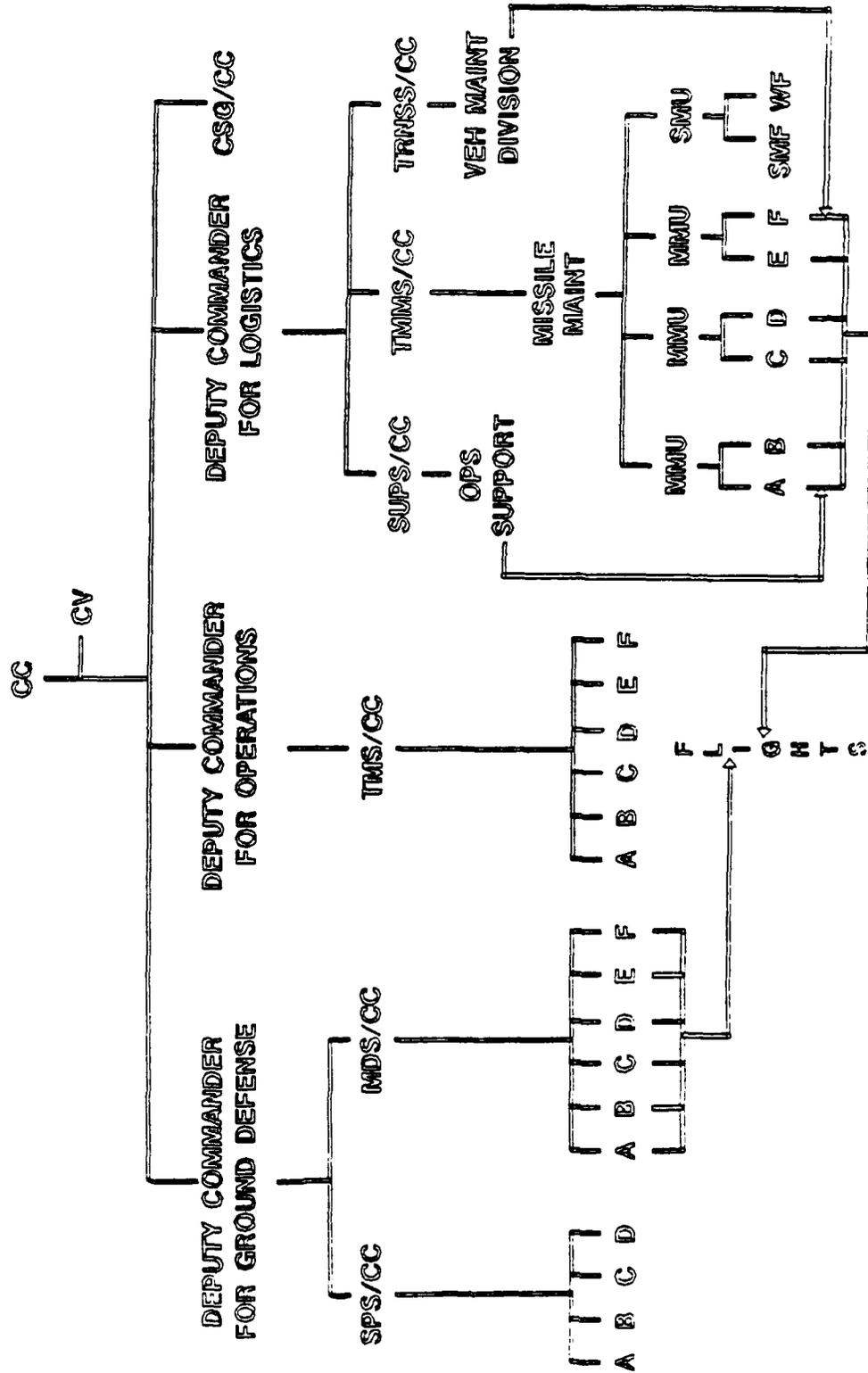


Figure 6

Chapter Six

ORGANIZATIONAL REQUIREMENTS FOR MOBILE ICBM DEPLOYMENT

As seen in the previous chapters, the organizational structures required to effectively employ the various missile systems are dependent upon the operational concept. In determining the basic organizational structure required for the effective deployment of a mobile system we reviewed basic Air Force doctrine, previously submitted Air Command and Staff College (ACSC) and Air War College (AWC) research projects, organizational doctrines from the various systems, books, GLCM reorganization plan, PERSHING "How We Fight" briefing, HQ SAC/XOK rail garrison proposal, and interviewed senior officers experienced in the deployment of mobile systems. These findings form the foundation of this chapter. First, and foremost, regarding organization of any unit is the basic Air Force doctrine contained in AFM 1-1 which states, "Commanders must organize and exercise forces as they intend to fight" (7:4-3). This doctrinal statement, though general in nature, provides the foundation for organization of any combat unit which is "to organize as you intend to fight".

A second consideration is that there must be cohesion among the people assigned to a mobile unit. This fact became evident through a number of different sources. Cohesion is discussed in AFM 1-1, which defines it as, "Cohesion is the principle of establishing and maintaining the warfighting spirit and capability of a force to win. Cohesion is the cement that holds a unit together through the trials of combat and is critical to the effectiveness of a force" (7:2-9). AFM 1-1 further states that "Commanders build cohesion through effective leadership and by generating a sense of common identity and shared purpose" (7:2-9). To be truly effective in combat conditions any unit must have a sense of cohesion, as well as the loyalty and dedication which only can be developed through strong unit identity.

The concept of unit identity and its benefits have been stated before by Lt Col James Kaufman, former commander of the 71 TMS, 485 Tactical Missile Wing, Florennes AB, Belgium. Lt Col Kaufman stated, "the effective fighting team will not develop in an atmosphere of divided loyalties. We in GLCM have attempted to

do exactly that and have failed miserably" (14:--). The concept of unit identity and cohesion was further expanded on by Major Gary C. Lagassey, Chief, GLCM Combat Employment Division, DCS/Operations, HQ USAFE who stated, "Cohesion is the single most important factor in the eventual success of any unit--this is especially so in the case of combat units". Major Lagassey goes on to state that:

Leaders must know their men, and the men must know their leaders and each other. It is not just a matter of knowing each other, they must clearly understand each others strengths, weaknesses, motivations, goals and needs. In short, they must have total confidence, trust, and reliance on one another in tough situations. All stem from cohesion (15:--).

Based on the above stated Air Force doctrine and experiences of personnel assigned to GLCM units, we conclude that cohesion is the prime element for an effective mobile missile system organizational structure.

A second principle of Air Force doctrine which must be considered is unity of command. This concept basically states that one person must be given the authority to carry out an assigned task to its completion. It specifically states that "unity of command, combined with common doctrine, obtains unity of effort by the coordinated action of all forces toward a common goal" (7:2-8). The concept of unity of command does not allow for one person to be placed into a position of "serving two masters". If a unit is organized along functional lines and separately organized for another mission (such as dispersal), then the personnel will most likely dedicate themselves to wherever their rewards emanate, i.e., whoever writes their efficiency reports. This concept of unity of command and loyalty to whom the people are assigned was discussed by Colonel Lance W. Lord, Director, GLCM Program Management Office, DCS/Plans and Programs, HQ USAFE. He stated basically that with the GLCM units organized along the traditional "fixed" DCO/DCM/SPG structures the internal responsibilities of those functional areas was their first priority; "the combat mission came second." He continued by stating that, "the development of the desired characteristics of flight teamwork, esprit de corps, unit pride and identity, reliability/confidence in flight leaders/subordinates, clear lines of authority, and the adoption of a wartime/combat mind set were all frustrated by an organizational structure inadequate for the dispersal mission" (16:--).

A third area necessary for effective mobile operations is the concept of the person having responsibility for the flight in wartime to have peacetime authority over its personnel in order to accomplish necessary training. In order to develop the unit

cohesion, people must work and train together as a team and not simply be thrown together when the need arises to disperse to the field. This type of inconsistency in personnel assignment was viewed by many as perhaps the biggest flaw with the GLCM organization (16:--). Not only did the flight commander not have day-to-day authority over personnel assigned to his flight, there was no guarantee that the same personnel would be assigned to him on a continuing basis. This made it impossible for the flight commander to conduct any type of effective training or develop any unit cohesion which might enhance the flights combat capability. Flights were organized for dispersal to the field in a task force type of setting with assignment to a flight being made purely by specialty codes and even time of arrival on the base. There was no guarantee that the same personnel would "go to the field" together every time. The mission of a mobile system is tactical in nature and therefore the flight cannot be organized as a task force but must be a cohesive fighting combat team.

One final factor which should be considered is the affect stress can have on personnel in mobile units when they deploy away from their main operating base in war or when international tensions cause increased defense readiness posture. This can create a situation which can seriously impair the readiness and combat capability of the unit. Personnel deploying from the "safety" of their "homes" and leaving family and friends behind poses a serious problem for combat effectiveness. This was brought out during a lecture by Dr. David Jones, Consultant, Neuropsychiatry, Brooks Medical Center. He emphasized this problem would be unavoidable in any combat situation but would be more severe when personnel were required to leave their family to an unknown fate and disperse with their unit. Dr. Jones indicated the best possible method of confronting this issue was to form a cohesive unit in which the personnel deploying would get to know each other as well as gain confidence in the person placed in command of their unit. It would also provide the commander the opportunity to become familiar with the personnel in the unit and hopefully create a firm cohesive combat unit. He suggested unit activities such as picnics, sports competitions, and other related activities as the best method to achieve this cohesion. Getting to know you people and their families was also discussed as a prime element in creating this type of unity. He strongly emphasised that this must be done well before the unit deploys if it is to be effective (13:--).

The information contained in this chapter and chapter five strongly advocates: for a mobile system to be effective, it must be organized with integrated flights. This opinion was expressed again and again by personnel we interviewed or those who provided written opinions that the standard SMW system is not logical for a mobile system, such as the rail garrison ICBM. The main point

expressed by all was that personnel must train together if they are going to effectively fight together. Secondly, the person who will be their leader in combat must also have authority in peacetime. In order to be an effective combat leader, this person must be allowed to train and prepare their personnel on a day-to-day basis. It is imperative that cohesion and unity be developed in peacetime, as it is highly unlikely it will come together in wartime. Personnel must know to whom they owe their allegiance and to understand that their flight leader will provide for them--promotion, esprit de corps, and as a result of this, a better chance for survival once they enter a combat situation.

Chapter Seven

ORGANIZATION COMPARISON FOR EXISTING MOBILE AND STATIC MISSILE SYSTEMS

In the preceding chapters we have examined the proposed rail garrison organization as well as the existing MINUTEMAN, PERSHING, and GLCM unit organizations. This chapter will draw these systems together and discuss the effectiveness of each organizational structure. The purpose of this chapter is to provide the lead-in for our proposed organizational structure for RG units.

In chapter one we stated that no one organizational concept had been determined for the rail garrison system. There are two distinct schools of thought on this matter at HQ SAC. One, to organize along the SMW system; the other, to organize the unit into integrated crews or flights. Both of these proposals have their merits, as well as their drawbacks. The organization along the SMW system is most familiar to SAC personnel and therefore the command tends to be comfortable with it. The integrated flight system is a significant change from the "status quo organization" as known to "big" missile personnel. SAC missileers with experience in mobile systems (GLCM in particular) do not find the idea of integrated flights as foreign as do those with no tactical missile experience. They have experienced the problems inherent in trying to accomplish a mobile combat mission with an organization suited to the needs of a static system.

The SMW system works well for a static system. One of the factors allowing it to work efficiently is the fact that there is no real interdependence among the three functional elements in the MINUTEMAN wing organization, i.e. operations, maintenance, and security. As was previously stated in chapter three, if functional areas encountered a problem that could not be resolved, it was passed "up the chain" and resolved by the wing staff personnel from the deputates concerned with the particular problem. Secondly, there exists no true need to mobilize for a wartime effort. Transition-to-war from peacetime in the SMW system actually involves very little additional effort. Missiles maintain a high degree of alert and launch control centers are manned on a 24-hour-a-day, 365-days-a-year basis. Maintenance and security perform their assigned missions in accordance with

their operational plans and there is little dependency by one deputate on another. The system works well in peacetime and undoubtedly would continue to function as well in a wartime environment. Mobile systems have a completely different span of control requirement than do static systems.

The PERSHING system is organized along the traditional U.S. ARMY field artillery concept. This is a tried and proven system for accomplishing mobile operations and it makes no difference whether you are using conventional munitions or IRBM's. Personnel are organized into the traditional brigade, battalions, batteries, and platoons. Each individual is aware of who he is responsible to and responsible for. Training is accomplished as an integrated unit within the battalions. Overall, the organization of the PERSHING system allows it to function in a very effective and efficient manner. The mobile concept is certainly not new to the U.S. Army and they have become extremely proficient in accomplishing the mobile missile mission.

The GLCM organization has received the most attention in this report as it is the first truly mobile missile system deployed by the AF. It has provided the AF with valuable "lessons learned" in the deployment of mobile missile systems. As stated in chapter five, the original GLCM wing organization was almost identical to the SMW system. This organization worked well in the initial development and deployment of the system (12:--), but failed to meet mature system requirements during field dispersal exercises and evaluations--the wartime mission. Chapter five cited the major problems encountered. The basic problem was units were unable to effectively disperse from the main operating bases in a timely manner. Of equal significance, once dispersed to field locations confusion and poor performance were observed during training and exercise/evaluations. The primary cause identified by the USAFE staff was the lack of familiarity among the personnel comprising a flight. Much of the confusion is traced to the fact that flight personnel did not train together, were not assigned together, and functionally were not aligned together. This greatly impaired the combat effectiveness of GLCM units. These factors led USAFE to the reorganization of its GLCM wing structure. The primary benefit derived from this GLCM reorganization is it provides the flight commander with personnel who will train and disperse together as a cohesive unit. The flight commander now participates in the effectiveness reporting of all flight personnel. In USAFE's "dedicated crew" concept the flight commander still does not have day-to-day supervisory responsibility or administrative control over flight personnel, but he does have a direct input into their performance reports. The total benefits derived from the GLCM reorganization will not be realized until full implementation and acceptance has taken place. As with any change in organizational structure time will be the judge of its effectiveness.

Unfortunately, the recent signing of the Intermediate Nuclear Force Treaty may bring about the demise of GLCM before a full and complete evaluation of this reorganization is possible. One fact remains; the original GLCM organization system mirrored the SMW organizational structure and was not effective for a mobile system. We seriously question its effectiveness with any other mobile system.

In conclusion, the SMW system works well for a static system. However, when comparing the requirements necessary to deploy a mobile system away from its main operating base, with command and control of these combat units placed in the hands of the flight or platoon commanders, a different organizational structure is required to ensure combat effectiveness.

To us, a mobile missile system is analogous to a professional football team. While each team position has totally diverse functions and responsibilities, each must accomplish his job in concert with the other team members to win. Taking the offensive team, you have a quarterback (FC), the line (Security), wide receivers and running backs. Each area has unique skills, but the whole team has a "mission"--to score. They train individually in their specialty, but also train as a cohesive unit. Sometime running backs catch passes as wide receivers; on "end arounds" receivers are running backs. The line blocks, but so do running backs and receivers and occasionally the quarterback does all three. Regardless, the quarterback is the field leader--he directs and observes all--and probably more than anyone else--has a feel for the ability of each offensive player.

The Strategic Air Command is now in the process of determining how to organize the mobile RG ICBM system. It is our belief that no one organizational structure presented in this paper solely provides the optimal organizational structure for the RG system. However, a combination of the organizations analyzed in this report can be used to develop an effective wing organization for the RG ICBM.

Chapter Eight

PROPOSED ORGANIZATIONAL STRUCTURE FOR MOBILE ICBM SYSTEMS

The deployment of a new technology mobile missile system does not always require the development of a new organizational structure if existing structures can adequately meet the requirements of the new system. However, as was clearly obvious in the GLCM system, this is not always true. It was believed the mobile GLCM system could be organized along the standard SMW system and function effectively. As our study has shown, this was not the case with GLCM and we sincerely believe the same will be true for any other mobile missile system.

Our proposal for the mobile ICBM RG wing organization is a modification of the GLCM, as reorganized in December 1986, while also incorporating certain characteristics of the U.S. Army PERSHING system. This proposal is based on our analysis of the background information provided by HQ SAC/XOK, our discussions with past mobile missile assigned personnel, and most importantly, our 12 years combined experience within mobile missile systems, comprising both operations and logistics exposure. We propose the following basic characteristics for the wing structure of the mobile RG ICBM (figure 7):

a. The basic combat element would be the flight. The flight would consist of a flight commander, launch crew, maintenance, security police, train crew, and other support personnel (i.e. food service, medical etc.). These personnel, as well as the associated critical elements (i.e. train, missile, etc.), and all required support equipment will be assigned to the flight commander as one cohesive unit.

b. This unit would be manned and equipped to support both day-to-day routine requirements as well as the primary wartime dispersal mission.

c. Manning in each unit must be adequate to meet normal personnel requirements, i.e. leave, sickness, appointments, etc.

d. Alert, training, and major support requirements would be met by rotating the individual flights through these various

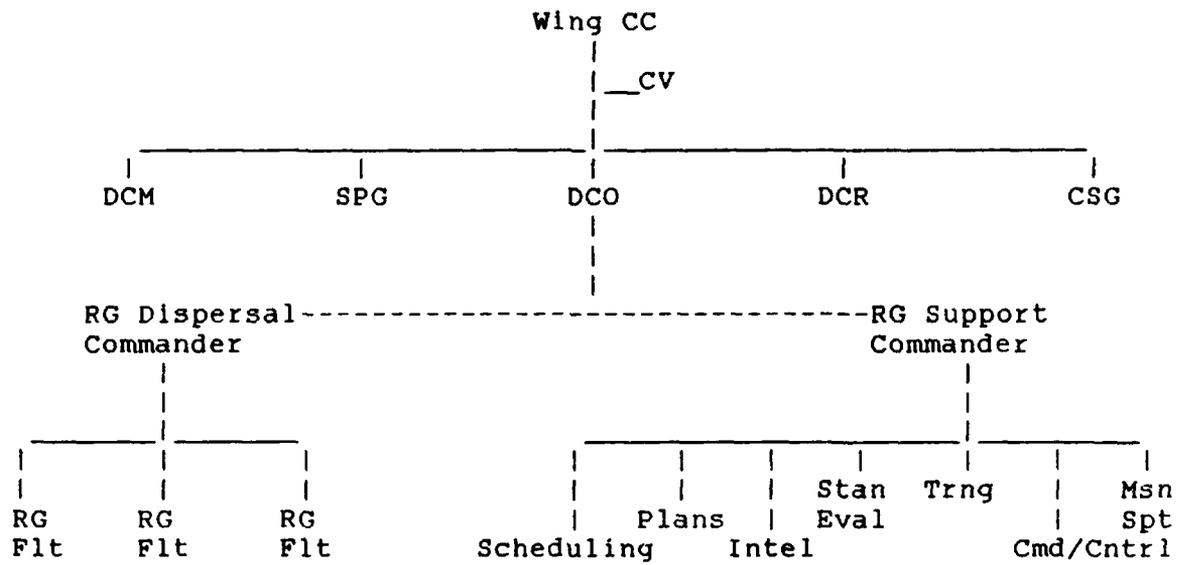
cycles. For example, a flight would assume alert for a given period of time, after the alert tour and crew rest, this flight would go through training to include not only functional area training but also general military training (first aid etc.), and from this rotate to support activities (i.e. scheduled requirements on their assigned equipment).

e. Support beyond the level described in b above will be provided by the appropriate base support functional area specialists.

f. On-base agencies would meet all other support requirements i.e. scheduled maintenance, missile changes, warhead maintenance, communications, supply, fuels, etc.

g. This organizational structure can be created utilizing existing AFSCs. Specialists could be periodically replaced in the flights by personnel from the support areas through coordination with the effected flights/squadrons.

The bottom line would be the creation of a totally integrated cohesive combat unit assigned together for the purpose of achieving a single mission--supporting and launching a RG ICBM. Based on our research, this is the most feasible and effective organization for the RG ICBM. The implementation of this radically different organization will require the highest levels of emphasis to be effective. However, once implemented, the increased combat effectiveness will greatly out weigh the resistance for the change.



Proposed RG ICBM Organizational Structure

Figure 7

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