AIR DEFENSE PRIORITIES IN SUPPORT OF AIRLAND BATTLE.

A Thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

DAVID K. EACHUS, MAJ, USA
B.S., United States Military Academy, 1976

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This study is an examination of the procedures and techniques used by corps and division headquarters to develop air defense priorities in support of AirLand Battle. The study begins with an examination of the role of the air defender in contributing to the overall initiative, agility, depth and synchronization of friendly forces on the battlefield. The study explores the doctrine for developing air defense priorities and links the successful application of this doctrine to the air defenders ability to contribute to success on the battlefield.

Collection of data from active army corps and division level units revealed that the process for developing air defense priorities was not well understood. The procedures and techniques used are not standardized. Responsibilities for executing the required tasks have not been identified nor fixed to specific individuals in many headquarters. In many cases, the personnel involved in the process did not have either the required expertise or timely access to the information needed to accomplish their task.

The study concludes that the current procedures and techniques for developing air defense priorities do not allow air defense forces to fully contribute to the overall initiative, agility, depth, and synchronization of friendly forces on the battlefield.

The study makes three recommendations for corrected the identified shortfalls. First, the task of developing air defense priorities should be added to future rewrites of FM 101-5. Second, the explanation of the process of developing air defense priorities needs to be expanded in doctrinal manuals written for Brigade, Division, and Corps level. Finally, the process for developing air defense priorities needs to be incorporated into the instruction of Army schools such as the Combined Arms and Services Staff School, the Command and General Staff College, and the Army War College

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THESIS APPROVAL PAGE

Name of candidate Major David K. Eachus

Title of thesis Air Defense Priorities in Support of AirLand Battle.

Approved by:

_____, Thesis Committee Chairman
Lieutenant Colonel James L. Moody, MS

_____, Member, Graduate Faculty
Lieutenant Colonel James P. Durbin, MA

_____, Member, Consulting Faculty
Colonel James L. Morrison, Ph.D.

Accepted this 3rd day of June 1988 by:

_____, Director, Graduate Degree Programs
Philip J. Brookes, Ph.D.

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ABSTRACT

AIR DEFENSE PRIORITIES IN SUPPORT OF AIRLAND BATTLE
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This study is an examination of the procedures and techniques used by corps and division headquarters to develop air defense priorities in support of AirLand Battle. The study begins with an examination of the role of the air defender in contributing to the overall initiative, agility, depth and synchronization of friendly forces on the battlefield. The study explores the doctrine for developing air defense priorities and links the successful application of this doctrine to the air defenders ability to contribute to success on the battlefield.

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INTRODUCTION

On the battlefield of the future the United States can no longer depend on unchallenged air superiority. The enemy will attempt to use air assets to contest not only our control of the air, but also control of the battlefield. JCS Pub 26 (Joint Doctrine for Theater Counterair Operations) defines counterair operations as, "Those operations conducted to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces. Counterair operations include such measures as the use of interceptors, bombers, antiaircraft guns, surface to air missiles and electronic countermeasures, . . . cover, concealment, dispersion, deception (including electronic), and mobility."[1] As a portion of our counterair effort, the Army air defense forces will play a vital role in providing protection to ground forces by destroying or neutralizing enemy aircraft.[2] The ability of Army air defense forces to execute this role will be largely dependent on the quality and timeliness of the guidance provided to the air defense force commander. The central component of this guidance is the air defense priorities issued by the ground force commander to the air defense force commander.[3]

Background.

The current AirLand Battle doctrine outlines a method for generating and applying combat power by achieving and maintaining initiative, agility, depth and synchronization on the battlefield.[4] Achieving these four tenets of AirLand Battle will enable ground force commanders to impose their will upon the enemy. If air defense forces are to effectively perform their

counterair role, then these forces must achieve similar levels of initiative, agility, depth, and synchronization in the conduct of air defense operations.[5]

The limited number of air defense weapons will cause commanders at all levels to develop priorities for the employment of air defense forces. The existing methodology for developing air defense priorities involves an analysis of the supported force in relation to four criteria: criticality, vulnerability, recuperability, and threat.[6] The resulting air defense priorities are the essence of the ground force commander's intent for the employment of the air defense forces.

The doctrine for developing air defense priorities was developed prior to the advent of the AirLand Battle Doctrine and has remained basically unchanged. Pre-AirLand Battle doctrine editions of FM 44-1 (U.S. Army Air Defense Artillery Employment) contain almost identical discussions concerning the development of air defense priorities as the post-AirLand Battle editions. In the eight editions of FM 44-1 released since 1952, the verbiage dealing with this process has remained basically the same.[7]

Despite the age of the doctrine, the actual command and staff techniques and procedures for conducting the required analysis and developing the air defense priorities are not well documented. The limited references in FM 44-1 to this process and the lack of any mention of the process in FM 101-5 (Staff Organizations and Operations) leads an observer to wonder if there are established procedures within organizations and if they are executed consistently. This also leads to the more serious question of whether the procedures currently in use are producing air defense priorities which allow the air defender to adequately support the AirLand Battle Doctrine. This will be the focus of this study.

Statement of the Problem.

The purpose of this study is to determine if the techniques and procedures currently used for developing air defense priorities at corps and division levels fully support the tenets of AirLand Battle as outlined in FM 100-5 (Operations). Specifically, this study must answer the question: "Do command and staff techniques and procedures at corps and division level produce air defense priorities which allow air defense forces to fully contribute to the overall initiative, agility, depth, and synchronization of friendly forces on the battlefield?"

Assumptions.

This study assumes that corps and division chiefs of staff as well as the associated air defense unit commanders are able to accurately identify command and staff techniques and procedures used within corps and division headquarters to develop air defense priorities. The influence of external factors and conditions always has the ability to influence the results of research findings and conclusions. This study relies on data collected from the field by questionnaire. One key factor is the experience level and background of the various respondents. Dealing with the variety and undefined nature of the variables implied by experience and background is beyond the scope of this study.

Methodology.

Answering the research question posed by this study involves a four-part process. First, a clear connection must be drawn between coherent, well articulated air defense priorities and the ability of air defense force commanders to achieve the tenets of AirLand Battle. This relationship

includes not only the ability to achieve the tenets within air defense units, but also the ability to contribute to their achievement within the overall force. A review of current doctrinal material coupled with a synthesis of existing doctrinal concepts will establish this relationship and identify any doctrinal requirements.

Second, the study must document current command and staff practices for developing air defense priorities at corps and division level. This step will be accomplished by a questionnaire distributed to corps and division chiefs of staff as well as the associated air defense force unit commanders. The questionnaire will collect data on current command and staff techniques and procedures used in the development and articulation of air defense priorities. It will determine the answers to the following questions:

(1) Who holds principal responsibility for the development of air defense priorities in each headquarters?

(2) Which staff members contribute to the criticality, vulnerability, recuperability and threat portions of the assessment?

(3) What guidance exists in unit SOPs to identify and fix responsibilities for the production of air defense priorities?

(4) What methods are used in each headquarters for articulating the air defense priorities to the command?

In the third step of the process, the data from the questionnaires will be analyzed to determine the variations in the procedures used to develop the air defense priorities produced by the different headquarters. These procedures were then compared against the doctrinal requirements for developing air defense priorities to determine if they met or exceeded requirements.

Finally, the study must draw conclusions on how practices impact on adequacy of product. This will determine the systemic differences between the various command and staff techniques and procedures documented by the questionnaire. These systemic differences will be examined in light of how well the product they produce satisfies the doctrinal requirements for air defense priorities.

With this information, the study will either confirm that the current methods of developing air defense priorities at corps and division level support our AirLand Battle Doctrine or identify areas of vulnerability where current practices are failing to achieve the aims of the doctrine. It may identify recommended modifications to command and staff techniques and procedures at corps and division level which will result in the more effective production of air defense priorities which support the tenets of the AirLand Battle Doctrine.

CHAPTER-1 ENDNOTES

[1]U.S. Department of Defense, Joint Doctrine for Theater Counterair Operations, JCS Pub 26 (Washington, D.C. : U.S. Government Printing Office, 1986), p. III-1.

[2]U.S. Department of the Army, U.S. Army Air Defense Artillery Employment, FM 44-1 (Washington, D.C. : U.S. Government Printing Office, 1983), p. 1-11.

[3]FM 44-1, p. 4-7.

[4]U.S. Department of the Army, Operations, FM 100-5 (Washington, D.C. : U.S. Government Printing Office, 1986), p. 14.

[5]Group Study Project, U.S. Army Counterair Operations, (U.S. Army War College, 1987) p. 2-11.

[6]FM 44-1, p.4-7.

[7]Summarized from information extracted from 7 editions of FM 44-1. U.S. Department of the Army, U.S. Army Air Defense Artillery Employment, FM 44-1 (Washington, D.C. : U.S. Government Printing Office)(1952 ed., Antiaircraft Artillery Employment, p. 19) (1959 ed., pp. 32-33) (1965 ed., p. 17) (1967 ed., p. 62) (1970 ed., pp. 10-1, 10-2, B-1, B-2, B-3) (1976 ed., pp. 4-5 and 4-6) (1983 ed., pp. 4-7 and 4-8).

CHAPTER 2

AIRLAND BATTLE AND THE AIR DEFENDER

Introduction

AirLand Battle doctrine recognizes the multidimensional nature of the future battlefield. The doctrine provides a framework for generating and applying combat power by achieving and maintaining initiative, agility, depth and synchronization on the battlefield.[1] Each operation on the battlefield must embody these tenets of AirLand battle. Success is partially determined by how well each member of the combined arms team can achieve initiative, agility, depth and synchronization in their operations on the battlefield. If air defense forces are to effectively perform their counterair role, then these forces must achieve a similar level of initiative, agility, depth, and synchronization in the conduct of air defense operations.[2] Key to the success of the air defense force commander, in achieving each of these tenets, is a clear understanding of the ground force commander's intent for the use of air defense forces.[3] This intent is captured in the air defense priorities developed for each operation. Indeed, there is a direct correlation between the development of air defense priorities and the ability of air defense forces to achieve and maintain initiative, agility, depth, and synchronization on the battlefield. An examination of the tenets of AirLand Battle as they relate to air defense and of the doctrinal process for developing air defense priorities will establish a clear connection between coherent, well articulated air defense priorities and the ability of air defense force commanders to achieve the tenets of AirLand Battle. This relationship includes not only the ability to achieve the tenets within air defense units, but also the ability of air defense

units to contribute to the achievement of the tenets within the overall force.

Definition of Terms

Prior to any detailed discussion, it is necessary to clearly define the key terms which will be used. The definitions used are taken from FM 100-5 (Operations) and FM 44-1 (U.S. Army Air Defense Artillery Employment).

AIR DEFENSE PRIORITIES - The ground force commander's prioritized list of selected force assets to be defended by the supporting ADA commander. This is the essence of the ground force commander's intent for the use of the air defense assets.[4]

FORCE ASSET - An asset assigned or under the operational control of a ground force commander. A force asset can be a unit, a location, or a capability which is of value to the ground force commander.[5]

CRITICALITY - The degree to which a force asset is essential to mission accomplishment.[6]

VULNERABILITY - The degree to which a force asset is susceptible to damage or destruction by air attack.[7]

RECUPERABILITY - The degree to which a force asset can be reconstituted following damage or destruction inflicted by an air attack.[8]

THREAT - The probability of a force asset being targeted and successfully attacked by enemy air assets.[9]

INITIATIVE - The ability to force the enemy to conform to our operational purpose and tempo while retaining our own freedom of action.[10]

AGILITY - The ability of friendly forces to react faster than the enemy.[11]

DEPTH - The extension of operations in space, time and resources.[12]

SYNCHRONIZATION - The arrangement of battlefield activities in time, space and purpose to produce maximum relative combat power at the decisive point.[13]

The Tenets of AirLand Battle Applied to Air Defense

To establish the relationship between the tenets of AirLand Battle doctrine and air defense, we must first examine each tenet in the context of air defense operations.

INITIATIVE. Air defense forces contribute to the seizing and retaining of initiative on the battlefield by defeating or nullifying the enemy's ability to affect the outcome of battle with air assets.[14] FM 100-5 addresses the necessity of decentralizing decision authority to the lowest practical levels to avoid inertia, minimize friction, and maintain initiative on the battlefield. Major John Vermillion in his monograph on "Auftragstaktik" states that one of the key concepts of Auftragstaktik that applies to our AirLand Battle doctrine is that ". . . the leader at the scene of the action can make decisions better suited to on-the-ground conditions than can a higher commander in a remote location."[15] The air defense commander can achieve this type of decentralization if he has a clear understanding of the ground force commander's intent for the use of air defense forces. The air defense commander can pass on this intent to subordinates to form the basis of their decision-making process. Since the air defense priorities are the essence of the commander's intent, a well developed set of air defense priorities is a key ingredient in the air defense force commander's ability to decentralize and thus achieve initiative.

AGILITY. The air defense force commander contributes to agility in two distinct manners. First, the air defense force commander must organize and employ the available air defense forces to counter a threat characterized by a variety of complex, fast moving aircraft, missiles and helicopters.[16] He must accomplish this in a way which facilitates the planned combined arms operations while maintaining flexibility to meet the requirements of any likely branches and sequels.[17] Secondly, the air defense force commander must control and in some cases direct the conduct of the air battle. The commander's skill in managing the air battle has a direct impact on the amount of friction experienced by friendly ground forces.[18] As with initiative, a key ingredient in achieving agility is decentralized decision authority. FM 100-5 points out the critical need for leaders to continuously read the battlefield, decide quickly what needs to be done, and act without hesitation. For the air defender, a well defined, clearly articulated set of air defense priorities allows the air defense force commander to see the battlefield through the eyes of the ground force commander. Understanding this intent allows the air defense force commander to effectively decentralize and thus achieve agility on the battlefield.

DEPTH. Air defense forces contribute to the ground force commander's ability to obtain and use depth in two ways. First, air defense forces deny the enemy freedom of action in the employment of air assets, thus reducing flexibility, endurance, and upsetting the plan. Second, air defense forces preserve the friendly ground force commander's freedom of action by protecting critical forces, facilities, and capabilities for future use.[19] To accomplish this creation and protection of depth, the air defense force commander must clearly understand the nature of the depth the ground force commander is trying to create as well as the specific forces, facilities, and

capabilities which must be protected in order to maintain and use that depth effectively. In short, the air defense commander must clearly understand the ground force commander's intent for the use of air defense forces in the upcoming operation. A well developed set of air defense priorities are key to this understanding.

SYNCHRONIZATION. Air defense forces contribute to synchronization of friendly operations in two ways. First, the synchronization of air defense operations prevents the enemy from using air assets in a synchronized manner against friendly forces. This allows the ground force commander significantly greater freedom to concentrate combat power at the decisive point in time and space. Second, the proper application of air defense forces to protect ground forces, facilities, and capabilities allows the ground force commander to make proper use of economy for force operations with less risk.[20] To accomplish these objectives, the air defense forces must be properly synchronized themselves. This requires the air defense force commander to have a clear understand of the ground force commander's vision of the battlefield. Key to this vision are well developed, clearly articulated air defense priorities which capture the essence of the ground force commander's intent for the use of air defense forces. This guidance allows the air defense force commander to synchronize the air defense by allocating the forces to the place and time which makes the greatest contribution to success with the least wasted effort.

Clearly, the key to the air defender achieving each of the four tenets of AirLand Battle doctrine on the battlefield is tied to well developed, clearly articulated air defense priorities. When these air defense priorities properly capture the essence of the ground force commander's intent, the air defense

force commander can employ the forces to achieve and maintain initiative, agility, depth and synchronization on the battlefield.

Developing Air Defense Priorities.

Army doctrinal literature gives only a very generic treatment of the relationship of AirLand Battle Doctrine to the development of air defense priorities. In both FM 100-5 (Operations) and FM 44-1 (U.S. Army Air Defense Employment), air defense priorities are identified as being essential to ensuring that ground force commanders use their limited air defense assets effectively. Ground force commanders are charged with developing the air defense priorities.[21] Beyond this, there is very little detail concerning how or by whom or when air defense priorities are developed. Doctrinal writings do not address how the development of air defense priorities should be accomplished to support the tenets of AirLand Battle Doctrine. Neither FM 101-5 (Staff Organization and Operations) or AFSC Pub 1 (Joint Staff Officers Guide) identify key players and their roles or responsibilities toward developing air defense priorities. Yet it is the actions of these key players which determine the quality of the air defense priorities produced.

The basic principle for developing air defense priorities involves an analysis of the supported force in relation to four criteria: criticality, vulnerability, recuperability, and threat.[22] The ground force commander and the staff conduct the components of this analysis during the estimate of the situation.[23] A look at each of the criteria and the players involved in analyzing them will assist in understanding the formulation of air defense priorities.

CRITICALITY. FM 44-1 defines this criteria as the degree to which a force asset is essential to mission accomplishment. The staff member

performing this portion of the assessment must have a clear understanding of the mission, enemy, terrain, troops and time available (METT-T). The staff member must use METT-T and the ground force commander's intent to prioritize the force assets based on criticality.[24] To accomplish this, force assets are divided into four basic categories and listed in priority. These categories define the impact of damage or destruction of the asset upon the overall operation. These categories, include:

(a) Damage or destruction is capable of preventing the execution of the plan or operation.

(b) Damage or destruction will cause immediate and serious interference with the execution of the plan or operation.

(c) Damage or destruction will ultimately cause serious interference with the execution of the plan or operation.

(d) Damage or destruction will cause limited interference with the plan or operation.[25]

The performance of this criticality assessment requires someone who understands the nature of the force assets as well as the details of the current operation. The G3 should be involved in performing this function.

VULNERABILITY. FM 44-1 defines vulnerability as the degree to which a force asset is susceptible to damage or destruction by air attack. The assessment of this criteria is based on an analysis of the force asset's hardness or ability to withstand damage by air attack, its ability to provide organic air defense, its ability to disperse or displace to avoid damage or destruction, and the amount of protection afforded by passive air defense measures.[26] This portion of the assessment must be performed by a member of the staff who clearly understands the nature of the force assets under analysis as well as the characteristics and capabilities of the enemy's

air weapons and ordnance. The G3 Air in conjunction with the Air Liaison Officer (ALO) should be involved in performing this function.

RECUPERABILITY. FM 44-1 defines recuperability as the degree to which a force asset can be reconstituted following damage or destruction inflicted by an air attack. This assessment must take into account the availability of replacement equipment and personnel as well as the time required to effectively reconstitute.[27] The staff member performing this portion of the assessment must have an intimate understanding of the nature of the force assets concerned as well as the logistical situation and constraints of the command. The G4 should be involved in performing this function.

THREAT. FM 44-1 defines threat as the probability of a force asset being targeted and successfully attacked by enemy air assets. Targeting probabilities are determined by intelligence estimates of how the enemy is likely to react to our plan or operation, enemy doctrine for use of air assets, previous enemy use of air assets, the enemy's capability to target and strike friendly force assets given the available air weapons and ordnance, and the target value which the enemy is likely to place on a given force asset.[28] This portion of the analysis must be performed by a staff member who has a clear understanding of the nature of the friendly force assets as well as the enemy air threat, doctrine and likely intentions. The G2 should be involved in performing this function.

After completing an analysis, the staff will have generated four separate lists based on the criteria. Each list should rank order the force assets assigned to the command. A staff officer must now combine the four lists to produce a single air defense priority list. A number decision aids can now be used to assist in identifying and recommending the optimum set of air defense priorities to the ground force commander. One such aid which was

included in the 1970 edition of FM 44-1 is a decision matrix.[29] To use this decision aid, the staff officer must weight each of the four criteria based on the commander's estimate of their relative importance to the pending operation. The matrix will produce a value for each force asset based on the criteria rankings and weight. These values reflect the relative ranking of the force assets based on the criteria.

The development of meaningful air defense priorities requires a detailed, well coordinated staff effort. Commanders need to identify staff officers with access to the required information to participate in this process. The role of each staff officer needs to be properly defined and they need to be familiar with the process of developing air defense priorities. Principal staff responsibility for the process must be fixed with a staff officer who has the requisite authority to direct and coordinate the required staff actions. When each player's actions are correctly performed, the staff will produce a set of air defense priorities which will support the commander's intent for the overall operation.

Summary.

This chapter has examined the relationship between the tenets of AirLand Battle and the development of air defense priorities. In examining the four tenets, it was clear that the air defender's ability to achieve as well as contribute to initiative, agility, depth and synchronization on the battlefield was directly tied to well developed, clearly articulated air defense priorities which accurately reflected the ground force commander's intent for the use of air defense forces. When examining the process for developing air defense priorities, it became obvious that the process requires the coordinated efforts of knowledgeable staff officers from various staff sections.

These staff officers must be able to conduct the required analysis in order to produce air defense priorities which truly reflect the ground force commander's overall intent for the operation. Thus, it can be seen that the ability of air defense commanders to contribute to initiative, agility, depth and synchronization on the battlefield is very much tied to the process by which staffs develop the air defense priorities. Following chapters will document this process in U.S. Army Corps and Division headquarters and attempt to determine how well these processes support the tenets of AirLand Battle.

CHAPTER-2 ENDNOTES

[1]U.S. Department of the Army, Operations, FM 100-5 (Washington, D.C. : U.S. Government Printing Office, 1986), p. 14.

[2]Group Study Project, U.S. Army Counterair Operations, (U.S. Army War College, 1987) p. 2-11.

[3]U.S. Department of the Army, U.S. Army Air Defense Artillery Employment, FM 44-1 (Washington, D.C. : U.S. Government Printing Office, 1983), p. 2-18.

[4]FM 44-1, Glossary p. 5

[5]This definition is derived from usage in FM 44-1, p. 4-7.

[6]FM 44-1, p. 4-7.

[7]FM 44-1, pp. 4-7 and 4-8.

[8]FM 44-1, p. 4-8.

[9]FM 44-1, p. 4-8.

[10]FM 100-5, p. 15.

[11]FM 100-5, p. 16.

[12]FM 100-5, pp. 16-17.

[13]FM 100-5, pp. 17-18.

[14]Group Study Project, pp. 2-11 and 2-12.

[15]John M. Vermillion, "Tactical Implications of the Adoption of Auftragstaktik for Command and Control on the AirLand Battlefield.", (Student Monograph, School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1985) p. 8.

[16]Group Study Project, p. 2-12.

[17]Group Study Project, p. 3-5.

[18]FM 44-1, p. 2-9.

[19]Group Study Project, p. 2-13.

[20]Group Study Project, pp. 2-13 and 2-14.

[21]FM 44-1, p. 1-13.

[22]Group Study Project, p. 3-10.

[23]FM 44-1, p. 4-7.

[24]Group Study Project, p. 3-10.

[25]FM 44-1, p. 4-7.

[26]Group Study Project, p. 3-10.

[27]Group Study Project, p. 3-10.

[28]Group Study Project, pp. 3-10 and 3-11.

[29] U.S. Department of the Army, U.S. Army Air Defense Artillery Employment, FM 44-1 (Washington, D.C. : U.S. Government Printing Office, 1970), pp. B-1 thru B-3.

CHAPTER 3

QUERYING THE FIELD

The previous chapter established a clear link between the air defense commander's ability to achieve initiative, agility, depth and synchronization on the battlefield and the command/staff procedures used by ground force commanders to develop air defense priorities. The next step in the research process is to document these command and staff procedures as they occur in corps and division headquarters. This requires developing a survey instrument to collect the data necessary to analysis the effectiveness of current corps and division command and staff procedures and techniques for developing air defense priorities. The process begins with first identifying what data is needed and who to ask.

Framing the Questions.

What to ask? Chapter 2 established that the development of meaningful air defense priorities requires a detailed, well coordinated staff effort. In order to determine the potential of the staff effort in a given headquarters to produce meaningful air defense priorities, the following key data elements had to be determined.

(1). Who holds the principal responsibility in each headquarters for the development of air defense priorities? This data element provides the information to determine if responsibility for the process is fixed and if the individual so charged had the authority necessary to direct and coordinate the required staff actions.

(2). Which staff officers actively contribute to the development of the criticality, vulnerability, recuperability and threat portions of the assessment? This data element provides a clear picture of which members of the ground force commander's staff are involved in the process. It allows for determining if the right people with access to the necessary information are involved.

(3). What guidance exists in unit Standing Operating Procedures or other documents to identify and fix responsibilities for the development of air defense priorities? This data element provides the information to determine if the process is firmly established and standardized within the headquarters.

(4). In what documents are air defense priorities articulated to the command? This data element will provide information on which to determine if the air defense priorities produced are being disseminated to the appropriate users.

Who to ask? The process for developing air defense priorities occurs in the ground force commander's headquarters. This study is concerned with the process for developing air defense priorities in corps and division-level headquarters. The chief of staff of these organizations is charged with overall supervision of staff functions within the headquarters.[1] The chief of staff is the person most likely to be knowledgeable concerning command and staff procedures and techniques currently in use. Additionally, the air defense unit commander who provides air defense to the ground force commander in response to the air defense priorities has a vested interest and may be a key player in the process within the supported headquarters.[2] Therefore it was decided to query both the chief of staff of the ground force headquarters and

the supporting air defense unit commander concerning the key data elements associated with the process.

Construction of the Questionnaire.

Having decided what data was required and from whom to obtain the data, the next step was to construct a survey instrument. For this study, a questionnaire was chosen as the most appropriate instrument for collecting the required data. This decision was based on the widely dispersed location of the probable respondents, and the desire to provide the respondents with a guarantee of confidentiality concerning their responses.

The questionnaire had to focus the respondents to provide the needed data elements without biasing the responses. This was accomplished in two ways. First, the questions were tailored to focus the collection of data from the perspective of a corps or division chief of staff and that of an air defense brigade or battalion commander. This resulted in the creation of two survey instruments which differed only in minor wording of the questions.
The second method of focusing the respondents was the construction of the responses for each question. The formatting of the responses presented two options. First, an open format could be used where the question was the only guide to the desired response. This allows the respondent total freedom in responding and avoids any possible bias associated with formatted responses. The danger is that the respondent might not address the data elements sought by the questionnaire. The second option is to format the responses for the respondent. This gives the respondent a limited, pre-focused field of responses to choose from in answering each question. The danger here is in biasing the outcome of the questionnaire by limiting the possible responses to each question.

For this questionnaire, a combination of both options was used. Because of the need to collect very specific data elements, a number of pre-formatted responses were provided with each question. The nature of the pre-formatted responses was kept general and covered a wide spectrum of possible responses. For example, the questions which dealt with identifying staff officers involved in the process, the responses included all members of the coordinating staff as well as a large number of the special staff potentially involved. In addition to the pre-formatted responses, respondents were encouraged to identify other possible responses to the questions. Finally, each respondent was provided an opportunity to respond to the question in an open format by providing comments. The use of this combined format allowed for the collection of needed data without unduly limiting the respondents freedom to respond to the questions.

The actual survey instrument consists of a questionnaire with eight data collection questions and one demographic question. The first question is designed to allow the respondent to identify all the players involved in the development of air defense priorities.

Question1. Which staff members are actively involved in the process of developing air defense priorities within your headquarters? (Check ALL applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

_____

_____

COMMENTS:

The second question allows the respondent to identify the person holding principal responsibility for the development of air defense priorities. The answers to this question provide the first key data element.

Question 2. Who holds the principal staff responsibility for the collection of ALL staff inputs and the synthesis of the air defense priorities within the headquarters? (Check **ONE** box)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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_____

COMMENTS:

_____

In developing the actual survey questions, it was necessary to further breakout the essential staff actions identified, in Chapter 2, as part of the analysis required for developing air defense priorities. This required formulating separate questions concerning the assessment of the ground force in relation to criticality, vulnerability, recuperability and enemy threat. Questions 3-6 allow the respondent to identify which staff members contribute to those portions of the analysis. The responses to these four questions address the second key data element.

Question 3. **Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their criticality to the upcoming operation?** (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

_____

_____

COMMENTS:

_____

Question 4. **Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their vulnerability to attack from the air?** (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

_____

_____

COMMENTS:

_____

Question 5. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their recuperability (the command's ability to reconstitute the asset) following damage or destruction by air attack? (Check ALL applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

_____

_____

COMMENTS:

_____

Question 6. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine the enemy's ability to target and successfully attack the asset using air power? (Check ALL applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

_____

COMMENTS:

_____

The seventh question is designed to allow the respondent to identify the nature of guidance related to the process of developing air defense priorities which exists within their organization. The responses to this question provide the answers to the third key data element.

Question 7. What guidance exists to identify and fix responsibilities for the development of air defense priorities within your headquarters? (Check ALL applicable boxes)

- ☐ Higher HQs guidance.
- ☐ Unit Staff Officer Guide
- ☐ Unit TSOP
- ☐ Other unit SOPs
- ☐ Supporting ADA unit SOPs
- ☐ Others (please list)

_____

_____

COMMENTS:

The last data question deals with the fourth key data element and how the air defense priorities are provided to the command.

Question 8. In what documents are air defense priorities articulated to the command? (Check ALL applicable boxes)

- ☐ Body of OPORDS/OPLANS
- ☐ Fire Support Annex
- ☐ Air Defense Annex
- ☐ Airspace Management Annex
- ☐ Unit SOPs
- ☐ Supporting ADA unit OPORDS
- ☐ Others (please list)

_____

_____

COMMENTS:

Question nine asks the respondent to provide data concerning the level of organization they represent. A tenth numbered entry on the questionnaire provides an invitation for general comments concerning the subject of the survey.

The survey questions listed above are taken directly from the questionnaire prepared for the corps and division chiefs of staff. The questionnaire prepared for the commanders of supporting air defense brigades and battalions has the same questions with the wording modified to address the question to them. Identical response fields were used in both

questionnaires. The questionnaires are included as Appendix A and B to this study.

Selection of the Target Units.

The next task to be accomplished was to select the corps and division level units and their associated air defense units to receive the questionnaires. The choice of units was based on the desire to achieve an representative cross-section of the Army by type and location (CONUS vs OCONUS). Units which were in the process of activating were not selected.

(1). Corps. All five active army corps-level units were selected to receive questionnaires. These included the First (I) and Third (III) Corps to represent the CONUS base and the Fifth (V) and Seventh (VII) Corps to represent an OCONUS base. Additionally, the Eighteenth (XVIII) Airborne Corps was included because of their unique missions and roles within the Army.

(2). Divisions. Ten division-level units were selected by stratified random sampling to receive questionnaires. The active army divisions were grouped by type and location. A random selection was made from divisions within each category. Divisions selected included two infantry divisions (3ID and 24ID), two armored divisions (1AD and 2AD), two light infantry divisions (7IDL and 25IDL), an airborne division (82AB), an airmobile division (101AA) and a motorized division (9MTZ). The 1st Cavalry Division was added to balance light versus heavy type divisions.

(3). ADA Brigades. The selection of air defense brigades was based on their association with corps-level units already selected. These ADA units include the 10th ADA Bde (V Corps), the 11th ADA Bde (XVIII Airborne Corps), the 35th ADA Bde (I Corps), and the 69th ADA Bde (VII Corps). The

III Corps ADA Bde was not included in this study because it was not activated until after the data collection phase of this study in April of 1988.

(4). ADA Battalions. The air defense battalion assigned to each of the division-level units selected were sent questionnaires. These battalions included 1-3 ADA (101AA), 1-62 ADA (25IDL), 1-67 ADA (9MTZ), 1-68 ADA (1CAV), 2-5 ADA (2AD), 2-59 ADA (1AD), 2-62 ADA (7IDL), 3-4 ADA (82AB), 3-67 ADA (3ID), and 5-52 ADA (24ID).

Summary.

This chapter has outlined the development of the survey instrument used in this study to obtain the key data elements necessary to analysis the effectiveness of current corps and division command and staff procedures and techniques for developing air defense priorities. The selection of a cross section of the corps and division-level units in the Army as target units along with their associated air defense units was discussed. The following chapter will describe the data collected from the field and the subsequent analysis.

CHAPTER-3 ENDNOTES

[1]U.S. Department of the Army, Staff Organization and Operations, FM 101-5 (Washington, D.C. : U.S. Government Printing Office, 1984), p. 2-3.

[2]U.S. Department of the Army, U.S. Army Air Defense Artillery Employment, FM 44-1 (Washington, D.C. : U.S. Government Printing Office, 1983), p. 4-7.

CHAPTER 4

PRIORITIZING AIR DEFENSES AT CORPS AND DIVISION LEVEL.

The data collected by the questionnaires documents the procedures and techniques in use for developing air defense priorities at corps and division-level headquarters. Twenty-nine questionnaires were sent out during this study. Five went to corps chiefs of staff, ten to division chiefs of staff, four to air defense brigade commanders and ten to air defense battalion commanders. All of the original twenty-nine were returned and all of these had usable data.

Portrayal of the Data.

As discussed in Chapter 3, the questionnaire was designed to collect data from four groups. These groups included the chiefs of staff of corps and division level units and the commanders of associated air defense brigades and battalions. The data collected from these groups is portrayed in matrix form in Tables 1 through 8. The matrix allows the responses to be assessed as a whole, by group or by unit level for each question asked on the questionnaire. A complete copy of the written comments which were returned with each question is attached at Appendix C.

Analysis of the Data. The first question was designed to identify those staff members actively involved in the development of air defense priorities within corps and division headquarters. The data revealed that the major players were routinely identified by corps and divisions, but the identification of supporting players differed from unit to unit with no real

consistent trend. A majority of the respondents indicated that the G3, the senior ADA staff officer and the supporting ADA unit commander were actively involved in the process. Corps chiefs of staff were more involved with the process than were their division counterparts. Seventy-five percent of the ADA brigade commanders and 80% of the ADA battalion commanders indicated that their unit S3 played a major role in the process. Only one corps and three division chiefs of staff concurred with this observation. There was a 74% correlation rate between the answers given by division chiefs of staff and their associated ADA unit commanders. This rate was only 54% between corps chiefs of staff and their associated ADA unit commanders. Table 1 portrays the percentage of chiefs of staff or ADA unit commanders who identified a specific staff officer as being actively involved in the process of developing air defense priorities.

TABLE 1: Percentage of chiefs of staff and ADA commanders who identified specific staff members as actively involved in developing air defense priorities within corps and division headquarters.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Chief of Staff	80%	30%	50%	10%
☐ ACofS, G1	0%	0%	0%	0%
☐ ACofS, G2	80%	30%	25%	30%
☐ ACofS, G3	100%	100%	100%	90%
☐ ACofS, G4	0%	20%	0%	10%
☐ Senior ADA staff officer	100%	90%	50%	80%
☐ Supporting ADA Bde/Bn Cdr	80%	90%	100%	90%
☐ Air Liaison Officer	40%	20%	0%	10%
☐ Airspace Management Officer	20%	40%	0%	30%
☐ CG	0%	30%	25%	10%
☐ ADCs	0%	30%	0%	10%
☐ MCS Cdrs	0%	10%	0%	20%
☐ ADA Unit S3	20%	30%	75%	80%

Comments made in response to the first question generally acknowledged that the process of developing air defense priorities requires a wide degree of coordination between staff elements. Usually, the senior ADA staff officer is the focus of this coordination effort. ADA brigade commanders were quick to point out that the air component commander of any joint command would make the final decision concerning the priorities for fighting the defensive counterair battle. In most foreseeable scenarios, they see this decision as the key factor affecting the employment of their weapons as opposed to a corps commander's air defense priorities. Forty percent of the Divisions indicated that the personal involvement of the division commander and/or the assistant division commanders was a key factor in the process of developing air defense priorities.

Question two asked the respondents to identify the staff member having principal staff responsibility for the collection of all staff inputs and the synthesis of the air defense priorities within corps and division headquarters. The data revealed a wide variation in who is viewed as having this responsibility. Eighty percent of the corps and 50% of the divisions identified the G3 as having this responsibility. The remainder identified either the senior ADA staff officer, the supporting ADA unit commander, or the supporting ADA unit S3 as having principle staff responsibility of developing ADA priorities. The ADA brigade commanders split their responses with half saying the corps G3 and the other half saying they had the responsibility. 30% of the divisional ADA battalion commanders said that it was the responsibility of the division G3, while the remainder said that the responsibility fell on either themselves, the senior ADA staff officer or their battalion S3. For this question, division chiefs of staff agreed with their associated ADA unit commander 70% of the time. Corps chiefs of staff agreed

with their associated ADA unit commander 60% of the time. Table 2 portrays the percentage of chiefs of staff or ADA unit commanders who identified a specific staff member as holding the principal responsibility for collection of all staff inputs and synthesis of air defense priorities within corps and division headquarters.

TABLE 2: Percentage of chiefs of staff and ADA commanders who identified a specific staff member as holding the principal responsibility for collection of all staff inputs and synthesis of air defense priorities within corps and division headquarters.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Chief of Staff	0%	0%	0%	0%
☐ ACofS, G1	0%	0%	0%	0%
☐ ACofS, G2	0%	0%	0%	0%
☐ ACofS, G3	80%	50%	50%	30%
☐ ACofS, G4	0%	0%	0%	0%
☐ Senior ADA staff officer	0%	30%	0%	30%
☐ Supporting ADA Bde/Bn Cdr	20%	0%	50%	10%
☐ Air Liaison Officer	0%	0%	0%	0%
☐ Airspace Management Officer	0%	0%	0%	0%
☐ CG	0%	10%	0%	0%
☐ ADA Unit S3	0%	10%	0%	30%

Comments received in response to this question generally revolved around the importance of the role of the G3 and the senior ADA staff officer. Air defense brigade commanders and some battalion commanders felt that they were wholly responsible for developing a recommended list of air defense priorities to be presented to the corps or division commander.

Question three asked which staff members contributed to an analysis of the command's assets to determine their criticality to the upcoming mission. The data revealed that the right people are identified to be involved with this portion of the process. Each of the corps and division chiefs of staff indicated that their G3 is a major player in this analysis. Other major players included the senior ADA staff officer and the supporting ADA unit commander.

Division chiefs of staff and their associated ADA unit commanders agreed on their responses 74% of the time while corps chiefs of staff and their associated ADA commanders agreed only 50% of the time. Table 3 portrays the percentage of chiefs of staff or ADA unit commanders who identified specific staff members as involved in the analysis of criticality within corps and division headquarters.

TABLE 3: Percentage of chiefs of staff and ADA commanders who identified specific staff members as involved in the analysis of criticality within corps and division headquarters.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Chief of Staff	60%	30%	50%	30%
☐ ACofS, G1	0%	0%	0%	10%
☐ ACofS, G2	40%	0%	0%	10%
☐ ACofS, G3	100%	100%	75%	90%
☐ ACofS, G4	40%	30%	25%	30%
☐ Senior ADA staff officer	100%	50%	75%	50%
☐ Supporting ADA Bde/Bn Cdr	80%	60%	50%	80%
☐ Air Liaison Officer	20%	0%	0%	10%
☐ Airspace Management Officer	20%	20%	0%	20%
☐ ADC	0%	20%	0%	20%
☐ MSC Cdrs	0%	10%	0%	20%
☐ ADA Unit S3	20%	10%	25%	50%

Comments from this question pointed to the key involvement by the G3 in passing on the commander's intent and then reviewing the criticality analysis. Several ADA brigade and battalion commanders reported that they are performing this function for their division or corps headquarters.

Question four asked which staff members contributed to the analysis of the command's assets to determine their vulnerability to attack from the air. Data from this question indicates that the G3, the senior ADA staff officer, and

the supporting ADA unit commander were the major players in this analysis. Only one corps and two division chiefs of staff failed to show their G3 as a major player in this analysis. Sixty percent of the corps chiefs of staff and 40% of the division chiefs of staff indicated involvement by the G2. Thirty-three percent of the chiefs of staff indicated participation by the Air Liaison Officer. Forty-three percent of the ADA unit commanders indicated that their unit S3 was a major player in this analysis. Eighty-one percent of the time, division chiefs of staff agreed with the responses of their associated ADA unit commanders, while 55% of responses of corps chiefs of staff agreed with the responses of their associated ADA commanders. Table 4 portrays the percentage of chiefs of staff or ADA unit commanders who identified specific staff members as involved in the analysis of vulnerability within corps and division headquarters.

TABLE 4: Percentage of chiefs of staff and ADA commanders who identified specific staff members as involved in the analysis of vulnerability within corps and division headquarters.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Chief of Staff	20%	30%	0%	20%
☐ ACofS, G1	0%	0%	0%	0%
☐ ACofS, G2	60%	40%	25%	50%
☐ ACofS, G3	80%	80%	50%	80%
☐ ACofS, G4	0%	30%	0%	10%
☐ Senior ADA staff officer	100%	60%	75%	50%
☐ Supporting ADA Bde/Bn Cdr	80%	60%	75%	70%
☐ Air Liaison Officer	40%	30%	25%	20%
☐ Airspace Management Officer	0%	10%	0%	30%
☐ ADC	0%	20%	0%	20%
☐ MSC Cdrs	0%	30%	0%	20%
☐ ADA Unit S3	20%	10%	25%	50%

Comments returned with this question identified that this analysis was often poorly done. The role of the G3 and the senior ADA staff officer as a focus for this activity was emphasized by several of the respondents. Several ADA brigade and battalion commanders indicated that they were actually performing this analysis for their corps or division.

Question 5 asked which staff members contributed to the analysis of the command's assets to determine their recuperability following damage or destruction by air attack. The data for this question revealed that the staff officers who have access to much of the key information used in an analysis of recuperability were not always involved. Sixty-six percent of the chiefs of staff identified the G3 as a major player. Sixty percent indicated that the G4 had a role in this analysis. Other major players included the supporting ADA unit commander, the senior ADA staff officer, and the chief of staff. Of note, 40% of the division chiefs of staff placed responsibility for this analysis on the air defense unit commander rather than on a member of his staff. The responses of division chiefs of staff agreed with their associated ADA unit commanders 70% of the time, while corps chiefs of staff agreed with their associated ADA unit commanders 61% of the time. Table 5 portrays the percentage of chiefs of staff or ADA unit commanders who identified specific staff members as involved in the analysis of recuperability within corps and division headquarters.

TABLE 5: Percentage of chiefs of staff and ADA commanders who identified specific staff members as involved in the analysis of recuperability within corps and division headquarters.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Chief of Staff	40%	40%	25%	40%
☐ ACofS, G1	40%	20%	25%	40%
☐ ACofS, G2	40%	10%	25%	20%
☐ ACofS, G3	80%	60%	25%	90%
☐ ACofS, G4	60%	60%	25%	70%
☐ Senior ADA staff officer	60%	50%	50%	40%
☐ Supporting ADA Bde/Bn Cdr	60%	40%	50%	60%
☐ Air Liaison Officer	0%	0%	0%	0%
☐ Airspace Management Officer	20%	20%	25%	30%
☐ ADC	0%	20%	0%	20%
☐ MSC Cdrs	40%	10%	50%	10%
☐ ADA Unit S3	20%	0%	25%	40%

Comments which accompanied this question emphasized the fact that logistics planners must be included to make this analysis accurate. The Several ADA brigade and battalion commanders indicated that they perform this analysis for their corps and divisions.

Question 6 asked which staff members contributed to the analysis of the command's assets to determine the enemy's ability to target and successfully attack the asset using air power. The data revealed the importance placed on threat analysis in this process. All of the corps chiefs of staff and 90% of the division chiefs of staff indicated that the G2 was the major player in this analysis. Forty-seven percent indicated the G3 played a major role. Of note, only two corps chiefs of staff and five division chiefs of staff identified the air liaison officer as a player in this analysis. Other major players indicated were the senior ADA staff officer, and the supporting ADA unit commander. Fifty percent of the ADA unit commanders indicated that their unit S3 was a major player in performing this analysis. Seventy-eight percent of the time, the responses of division chiefs of staff agreed with that of their associated ADA unit commanders. Corps chiefs of staff and their associated ADA unit

commanders agreed 82% of the time. Table 6 portrays the percentage of chiefs of staff or ADA unit commanders who identified specific staff members as involved in the analysis of threat with corps and division headquarters.

TABLE 6: Percentage of chiefs of staff and ADA commanders who identified specific staff members as involved in the analysis of threat with corps and division headquarters.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Chief of Staff	0%	20%	0%	20%
☐ ACofS, G1	0%	0%	0%	10%
☐ ACofS, G2	100%	90%	100%	70%
☐ ACofS, G3	40%	50%	25%	70%
☐ ACofS, G4	0%	0%	0%	20%
☐ Senior ADA staff officer	80%	60%	75%	50%
☐ Supporting ADA Bde/Bn Cdr	60%	50%	75%	80%
☐ Air Liaison Officer	40%	50%	50%	70%
☐ Airspace Management Office	0%	20%	0%	30%
☐ MSC Cdrs	0%	0%	0%	10%
☐ ADA Unit S2	0%	10%	25%	20%
☐ ADA Unit S3	20%	20%	50%	50%

Comments received with this questions emphasized the role of the G2, but pointed out that the current level of sophistication of the analysis is less than what is required. Several of the ADA unit commanders indicated that it took the involvement of their unit S2 with the G2 to facilitate the development of information needed to complete this analysis.

Question seven asked the units what guidance existed to identify and fix responsibilities for the development of air defense priorities in corps and division headquarters. The data indicates that many of corps and divisions did not have such guidance in place. Sixty percent of the corps and divisions indicated that higher headquarters provided some guidance in this area. Sixty percent of the chiefs of staff indicated that this guidance was contained in unit tactical standing operating procedures (TSOP). However, only 43% of the ADA unit commanders concurred with this assessment. Sixty-six percent

of the corps and division chiefs of staff indicated that some guidance existed in supporting ADA unit SOPs. No units had incorporated guidance into unit staff officer guides or other similar material. The responses of division chiefs of staff agreed with those of their associated ADA unit commanders 83% of the time. Corps chiefs of staff agreed with their associated ADA commanders on the location of this guidance only 55% of the time. Table 7 portrays the percentage of chiefs of staff or ADA unit commanders who identified specific guidance which exists within corps and division headquarters to identify and fix responsibilities for the development of air defense priorities.

TABLE 7: Percentage of chiefs of staff and ADA commanders who identified specific guidance which exists within corps and division headquarters to identify and fix responsibilities for the development of air defense priorities.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Higher HQs guidance.	60%	60%	50%	70%
☐ Unit Staff Officer Guide	0%	0%	0%	0%
☐ Unit TSOP	60%	60%	25%	50%
☐ Other unit SOPs	40%	20%	25%	10%
☐ Supporting ADA unit SOPs	60%	70%	50%	90%
☐ MCS TSOPs	0%	0%	0%	10%

Comments received with this question emphasized that existing "how to" guidance was limited and generally insufficient to identify and fix responsibilities for the process of developing of air defense priorities. Several units indicated that the only existing guidance was in ADA unit documents.

Question eight was designed to identify the documents used by corps and division headquarters to articulate the air defense priorities to the command. The data reveals that once developed, the air defense priorities are articulated to the command effectively. Ninety-three percent of the units indicated that the air defense priorities are contained in the body of OPORDS and OPLANS. All corps and division chiefs of staff indicated that the

priorities are also contained in air defense annexes to OPORDS and OPLANS. Ninety-three percent indicated that ADA unit OPORDS are also used as a vehicle to accomplish the dissemination of the priorities to the command. The responses of division chiefs of staff to this question agreed with those of their associated ADA unit commanders 86% of the time. Corps chiefs of staff agreed with their associated ADA unit commanders 60% of the time. Table 8 portrays the percentage of chiefs of staff or ADA unit commanders who identified specific documents used in corps and division headquarters to articulate air defense priorities to the command.

TABLE 8: Percentage of chiefs of staff and ADA commanders who identified specific documents used in corps and division headquarters to articulate air defense priorities to the command.

	Corps CofS (n=5)	Division CofS (n=10)	ADA Bde Cdr (n=4)	ADA Bn Cdr (n=10)
☐ Body of OPORDS/OPLANS	80%	100%	75%	100%
☐ Fire Support Annex	20%	10%	0%	10%
☐ Air Defense Annex	100%	100%	50%	100%
☐ Airspace Management Annex	0%	40%	0%	10%
☐ Unit SOPs	20%	10%	25%	10%
☐ Supporting ADA unit OPORDS	80%	100%	75%	80%

Comments received from this question focused on the use of the OPORD as the principal method for disseminating air defense priorities. Several respondents indicated that units were using the counterair portion of the Fires subparagraph of the OPORD as a key way to accomplish this function.

Synopsis of General Comments. The general comments concentrated on two themes. First, the development of air defense priorities is not a well understood process in most corps and division headquarters. Most units rely on the senior ADA staff officer to provide expertise in the area. Complicating the process is the unique language used by air defenders. The terms,

criticality, vulnerability, and recuperability are used only in the development of air defense priorities. Lack of good guidance and clear cut responsibilities all contribute to make the process less effective. The second theme pointed out that a clear understanding of the supported unit commander's intent is vital to developing effective air defense priorities. Corps and division chiefs of staff emphasized the importance of the commander's intent as provided to the major players in the process by the G3. The ADA unit commanders stressed the importance of clear transmission of that commander's intent to all the players involved. A complete copy of these comments is attached at Appendix C.

Identifying the Trends.

The identification of data trends results from the comparison of responses between the groups of respondents. This study concerned itself with two basic areas of interest: (1) a comparison between the responses of the unit chiefs of staff and the responses obtained from the commanders of the associated air defense units; and (2) a comparison of the responses between like units.

The responses of division chiefs of staff and their associated ADA unit commanders were in agreement 77% of the time on the specifics of the process, while corps chiefs of staff and their associated ADA unit commanders agreed 59% of the time. This may stem from the fact that ADA battalions are organic to divisions and therefore have a habitual working relationship with their division staff. ADA brigades are not generally assigned to a specific corps, but rather have a coordination relationship with one or more corps or joint commands for contingency or wartime operations.

In comparing the responses of like units, corps chiefs of staff generally tended to agree with one another. A majority indicated that their G3 had the lead in the process of developing air defense priorities. All placed heavy emphasis on the role of the senior ADA staff officer and associated ADA unit commander. There was minor disagreement in the areas of which specific staff officers were involved in various portions of the analyses.

Division chiefs of staff were more widely varied in their responses. Only 50% of them identified their G3 as having principal staff responsibility for the process. The rest placed that responsibility on an air defender. They also differed widely on which staff officers are involved in the various portions of the analyses.

The ADA brigade commanders generally agreed on the role of the major players in the process. The brigade commanders were equally split over whether they, as the corps air defense officer, or the corps G3 has principal staff responsibility for supervising the process of developing air defense priorities.

The ADA battalion commanders also generally agreed on who the major players were in the process. There was major disagreement in the area of fixing principal responsibility for the process. Thirty percent indicated the division G3, while the remaining 70% indicated either themselves, the senior ADA staff officer or their S3 as having this responsibility.

Analysis of Staff Procedures.

Chapter 2 concluded that the development of air defense priorities which accurately reflected the ground force commander's intent for the use of air defense forces was tied directly to the process by which staffs develop these priorities. The four essential criteria which were extrapolated from the

doctrinal analysis became the four key data elements around which the questionnaire was designed. We can now analyze the data collected with respect to these four criteria.

The first criteria was that the person holding principal responsibility for the development of the air defense priorities have the authority to direct and coordinate the required staff actions. This study revealed that in 80% of the corps and 50% of the divisions that this person is the G3. In the remainder of the units, the person holding principal responsibility was normally an air defense officer with little authority to direct staff activities within the headquarters.

The second criteria was that staff officers with timely access to the needed information be involved in the analysis of the ground force with respect to criticality, vulnerability, recuperability and enemy threat. The data collected disclosed that for the analysis of criticality, all of the corps and divisions had their G3 involved as a major player. This indicates that a key player who understands the nature of the command as well as the details of the current operation was involved in the performance of this function.

For the analysis of vulnerability, 80% of the corps and divisions identified the G3 as a major player in this analysis. The other key player in this analysis, the air liaison officer was identified by only 20% of the corps and 30% of the divisions. This potentially means that although the assessment has someone involved who understands the nature of the command's assets, there may not be no one involved with a working knowledge of air- delivered ordnance and ready access to the characteristics and capabilities of the enemy's air weapons and ordnance.

In the analysis of recuperability, 80% of the corps and 60% of the divisions indicated that their G3 was a major player. The G4 was identified as a major player by only 60% of both headquarters. This potentially means that in 40% of these units, the analysis of recuperability is conducted without involving anyone with an intimate understanding of the current logistical situation and the logistical constraints of the command.

In the analysis of the Threat, all of the corps and 90% of the divisions identified the G2 as a major player. This indicates that in the majority of units, the analysis of threat includes involvement by a staff officer who has a clear understanding of the nature of friendly forces and has timely access to the enemy's doctrine, current capabilities and likely intentions.

The third criteria was that existing guidance identify and fix responsibilities for developing air defense priorities within the headquarters. The data revealed that 60% of the corps and divisions had guidance concerning the execution of this process in internal documents. Sixty percent indicated that they received some guidance in this area from higher headquarters. Sixty percent of the corps and 70% of the divisions indicated that this type of guidance existed in documents of their associated ADA units.

The final criteria stipulated that the staff procedure must include the means to effectively articulate the air defense priorities to the command. The study disclosed that 80% of the corps and all of the division placed the air defense priorities in the body of OPORDs and OPLANs. Additionally, all of these units indicated that the priorities were also placed in the Air Defense Annex to these orders and plans. Finally, 75% of the ADA brigades and 80% of the ADA battalions indicated that the priorities were also included in their OPORD/OPLAN.

Summary.

This chapter portrayed the data collected from the field through the use of the survey questionnaire. Data concerning the procedures for developing air defense priorities was collected from the chiefs of staff of 5 corps and 10 divisions. Additionally, data on the process was collected from the commanders of 4 ADA brigades and 10 ADA battalions associated with the corps and divisions. The data was presented to show the responses by group to each of the questions on the survey. Data trends were identified and compared. Finally, the data was analyzed against the doctrinal criteria developed in Chapter 2. The following chapter will draw conclusions and recommendations from the data and analysis presented here.

CHAPTER-4 ENDNOTES

None.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

> **An army's fundamental doctrine is the condensed expression of its approach to fighting campaigns, major operations, battles, and engagements. Tactics, techniques, procedures, organizations, support structure, equipment and training must all derive from it.** [1]

This study is designed to examine the current command and staff procedures for developing air defense priorities to determine if these procedures can produce air defense priorities which fully support the tenets of AirLand Battle as outlined in FM 100-5. The criteria for determining this was established in Chapter 2. Chapter 4 portrayed the data collected from active army corps and divisions concerning the staff officers involved, the fixing of responsibilities and how the priorities were articulated to the command. This study must now draw conclusions on how the actual command and staff practices affect the adequacy of the air defense priorities produced by these headquarters. Additionally, conclusions must be drawn on how these priorities, with their inherent strengths or weaknesses, might affect the air defense force commander's ability to contribute to the overall initiative, agility, depth, and synchronization of friendly forces on the battlefield.

General Conclusions

The purpose and process of developing air defense priorities is not well understood within corps and division headquarters. The primary indicator of this lack of understanding was the assignment of principal staff responsibility for the process to an air defender. In a third of the corps and divisions, the

chiefs of staff identified either the associated ADA unit commander, the ADA unit S3 or the senior ADA staff officer as having principal staff responsibility for the process. If the air defense priorities are the essence of the ground force commander's intent for the use of air defense forces, the practice of making the ADA unit commander or S3 responsible amounts to asking a subordinate unit commander to write a senior commander's intent.

The procedures and techniques for developing air defense priorities are not standardized. Chapter 2 pointed out that doctrinal literature does not identify specific tasks or individuals who should perform these tasks associated with developing air defense priorities. The data collected from the chiefs of staff indicate a wide variety of approaches to the process.

Responsibilities for executing the process of developing air defense priorities are not well identified or fixed to specified individuals within corps and division headquarters. The data provided by the chiefs of staff concerning the presence of guidance within their headquarters was the principal indicator of this shortfall. Many of the comments indicated that even where such guidance existed, it was too general in nature and of marginal value.

The staff officers conducting the required analyses of vulnerability and recuperability often do not have the required expertise or timely access to needed information. At corps level, only 50% of the time were the appropriate staff officers involved with these analyses. At division level, this rate was only 45%. This left the conduct of these analyses generally to the air defense staff which calls into question the validity of the products produced based on access to timely and accurate information.

The assignment of principal staff responsibility has a major impact on the effectiveness of the process. In those units where the G3 was charged with

supervising the process, the proper players were involved in the analyses and guidance covering the process was in existence within the headquarters. This was not generally the case in units where the G3 was not in charge of the process.

Conclusions on the Effectiveness of Current Staff Procedures and Techniques

Sixty percent of the active army corps have the potential to produce air defense priorities which truly reflect the corps commander's intent for the use of air defense forces. This conclusion is based on using the people and the procedures that the corps chiefs of staff indicated are currently in place to accomplish the essential tasks identified in Chapter 2 of this study. The remaining 40% failed to fix principal staff responsibility effectively, failed to identify key players to accomplish the necessary analysis, and failed to document the requirements and responsibilities for the procedure.

At division level, only 50% of the divisions have the potential to produce air defense priorities which truly reflect the division commander's intent for the use of air defense forces. As with the corps, the remaining 50% of the divisions failed to fix principal staff responsibility effectively, failed to identify key players to accomplish the necessary analysis, and failed to document the requirements and responsibilities for the procedure.

Judging the quality of the products produced by these procedures was beyond the scope of this study. However, many of the comments received indicate shortcomings in the execution of the procedures and value of many of the products.

The Impact on Support of AirLand Battle Doctrine

As discussed in Chapter 2, the contribution of the air defense unit commander to the overall initiative, agility, depth, and synchronization of

friendly forces is at least partially dependent on receiving air defense priorities which truly reflect the ground force commander's intent for the use of his air defense forces. The development of these priorities depend on the quality of the analysis of the command in terms of criticality, vulnerability, recuperability and the threat. The quality of the analysis depends on a coordinated staff effort by the right people, with an understanding the ground force commander's intent and access to timely, accurate information.

Based on the above conditions, only 60% of the corps and 50% of the divisions had the potential to develop air defense priorities which would allow the air defender to fully contribute to the overall initiative, agility, depth and synchronization. The remainder face the loss of part of the combat multiplier bestowed by effective air defense at the correct time and place on the battlefield. This loss directly translates into a reduction in the overall initiative, agility, depth and synchronization achieved by friendly forces on the battlefield.

Answering the Research Question

The research question as posed asked, "Do command and staff techniques and procedures at corps and division level produce air defense priorities which allow air defense force to fully contribute to the overall initiative, agility, depth, and synchronization of friendly forces on the battlefield?" On the basis of this study, the answer must be "no". This study has shown that less that 60% of these units have procedures in place which give them the potential to produce air defense priorities of the quality required. Additionally, the comments which accompanied many of the responses indicated shortfalls in execution and quality of the required analyses.

Recommendations

The recommendations of resolving the shortfalls identified by this study are threefold. First, the task of developing air defense priorities should be added to future rewrites of FM 101-5. Specifically, the responsibilities to conduct the analyses should be added to Chapter 3 and to Appendix A of the FM 101-5. This will begin to standardize the tasks and help in identifying specific responsibilities to individual staff members.

Second, the explanation of the process of developing air defense priorities needs to be expanded in doctrinal manuals written for Brigade, Division, and Corps level. Guidance should be enhanced in FM 100-5 (Operations), FM 100-15 (Corps Operations), and the FM 71- series for division and brigade operations. This should increase the awareness of ground force commanders to the process by which air defense priorities are developed as well as its purpose in ensuring the best use of the limited, vital air defense assets. Additionally, this will help relieve ADA unit commanders of the responsibility for providing expertise their organizations were never designed to possess.

Finally, the process for developing air defense priorities needs to be incorporated into the instruction of Army schools such as the Combined Arms and Services Staff School, the Command and General Staff College, and the Army War College. This will ensure that future commanders and staff officers who will be responsible for executing the process are familiar with the tasks required and the individuals involved in accomplishing those tasks.

Summary

If Army air defense forces are to fulfil their role in the counterair battle of the next war, then the guidance which determines the employment of these forces must reflect the ground force commander's intent for the use of the air

defense forces in support of pending operations. The essence of this intent is contained in the air defense priorities developed by the ground force commander and his staff.

This study looked first at the doctrine for AirLand Battle with emphasis on how the air defender contributes to the overall initiative, agility, depth and synchronization of friendly forces on the battlefield. It concluded that to maximize the contribution of air defense forces required the production of quality air defense priorities based on a clear understanding of the ground force commander's intent for the operation and effective analyses of the command in terms of criticality, vulnerability, recuperability and threat. The ability to produce quality air defense priorities was tied to: (1) identifying and fixing responsibility for the required tasks; (2) involving in the analyses those staff officers with the needed expertise and timely access to the required information; and (3) ensuring that overall staff supervision of the process was assigned to a staff officer with the necessary authority to direct and coordinate the required staff actions.

The data collected from corps and division level units in the field leads to the conclusion that our current procedures are not ensuring that the air defense priorities developed truly reflect the ground force commander's intent for the use of his air defense forces. This in turn leads to the conclusion that the contribution of air defense forces to the overall initiative, agility, depth, and synchronization is not being fully realized.

With the limited quantity of air defense weapons, not maximizing their contribution is an unacceptable shortfall for an Army which expects that "All ground operations above the level of the smallest engagements will be strongly affected by the supporting air operations of one or both combatants."[2]

CHAPTER-5 ENDNOTES

[1] U.S. Department of the Army, Operations, FM 100-5 (Washington D.C.: U.S. Government Printing Office, 1986), p. 6.

[2] FM 100-5, p. 9.

APPENDIX A

Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

Appendix A (Questionnaire for Chiefs of Staff)

This appendix contains the questionnaire sent to Corps and Division chiefs of staff. Survey instructions were as follows:

1. This survey is designed to collect data on command and control techniques and procedures currently in use by corps and division-level headquarters. The survey focuses on the process of developing air defense priorities in support of battlefield operations.

2. Please answer the survey questions to reflect the procedures and techniques currently used in your headquarters.

3. As part of the effort to obtain a true representation these processes throughout the Army, it is essential that each survey is completed and returned. A postcard has been included which will allow us to track responses without compromising confidentially in responding to the survey. Please mail the postcard when the survey has been completed and returned.

4. Please complete the attached survey form no later than 11 March 1988 and return it sealed in the envelope provided.

5. Do not place your name or unit designation on the survey form. The survey is designed to be in no way identifiable to you as an individual or to your unit.

6. Your cooperation is sincerely appreciated. The time you spend will greatly contribute to the overall success of this command and control study.

Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

1. Which staff members are actively involved in the process of developing air defense priorities within your headquarters? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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2. Who holds the principal staff responsibility for the collection of ALL staff inputs and the synthesis of the air defense priorities within the headquarters? (Check **ONE** box)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

3. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their criticality to the upcoming operation? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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4. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their vulnerability to attack from the air? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

5. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their recuperability (the command's ability to reconstitute the asset) following damage or destruction by air attack? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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6. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine the enemy's ability to target and successfully attack the asset using air power? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ Supporting ADA Bde/Bn Cdr
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

7. What guidance exists to identify and fix responsibilities for the development of air defense priorities within your headquarters? (Check **ALL** applicable boxes)

- ☐ Higher HQs guidance.
- ☐ Unit Staff Officer Guide
- ☐ Unit TSOP
- ☐ Other unit SOPs
- ☐ Supporting ADA unit SOPs
- ☐ Others (please list)

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COMMENTS:

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8. In what documents are air defense priorities articulated to the command? (Check **ALL** applicable boxes)

- ☐ Body of OPORDS/OPLANS
- ☐ Fire Support Annex
- ☐ Air Defense Annex
- ☐ Airspace Management Annex
- ☐ Unit SOPs
- ☐ Supporting ADA unit OPORDS
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

9. Please indicate the level of headquarters referenced in answering the questions above.

☐ Corps ☐ Division

10. GENERAL COMMENTS (Please include any concepts, techniques or procedures in use which are related to the topic):

APPENDIX B

Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

Appendix B (Questionnaire for ADA Brigade and Battalion Commanders)

This appendix contains the questionnaire sent to the air defense brigades and battalions associated with the Corps and Divisions selected for this survey. Survey instructions were as follows:

1. This survey is designed to collect data on command and control techniques and procedures currently in use for developing air defense priorities in support of battlefield operations.

2. Please answer the survey questions to reflect the current procedures and techniques used for developing the air defense priorities provided to your unit.

3. As part of the effort to obtain a true representation these processes throughout the Army, it is essential that each survey is completed and returned. A postcard has been included which will allow us to track responses without compromising confidentially in responding to the survey. Please mail the postcard when the survey has been completed and returned.

4. Please complete the attached survey form no later than 12 March 1988 and return it sealed in the envelope provided.

5. Do not place your name or unit designation on the survey form. The survey is designed to be in no way identifiable to you as an individual or to your unit.

6. Your cooperation is sincerely appreciated. The time you spend will greatly contribute to the overall success of this command and control study.

Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

1. Which staff members are actively involved in the process of developing air defense priorities used by your organization? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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2. Who holds the principal staff responsibility for the collection of ALL inputs and the synthesis of the air defense priorities? (Check **ONE** box)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

3. Which staff members contribute to an analysis of the ground force commander's assets (units, facilities, or capabilities) to determine their criticality to the upcoming operation? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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4. Which staff members contribute to an analysis of the ground force commander's assets (units, facilities, or capabilities) to determine their vulnerability to attack from the air? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

1. Which staff members are actively involved in the process of developing air defense priorities used by your organization? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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2. Who holds the principal staff responsibility for the collection of ALL inputs and the synthesis of the air defense priorities? (Check **ONE** box)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

3. Which staff members contribute to an analysis of the ground force commander's assets (units, facilities, or capabilities) to determine their criticality to the upcoming operation? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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4. Which staff members contribute to an analysis of the ground force commander's assets (units, facilities, or capabilities) to determine their vulnerability to attack from the air? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

5. Which staff members contribute to an analysis of the ground force commander's assets (units, facilities, or capabilities) to determine their recuperability (the command's ability to reconstitute the asset) following damage or destruction by air attack? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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6. Which staff members contribute to an analysis of the ground force commander's assets (units, facilities, or capabilities) to determine the enemy's ability to target and successfully attack the asset using air power? (Check **ALL** applicable boxes)

- ☐ Chief of Staff
- ☐ ACofS, G1
- ☐ ACofS, G2
- ☐ ACofS, G3
- ☐ ACofS, G4
- ☐ Senior ADA staff officer
- ☐ ADA Bde/Bn Cdr
- ☐ ADA Bn S3
- ☐ Air Liaison Officer
- ☐ Airspace Management Officer
- ☐ Others (please list)

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COMMENTS:

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Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

7. What guidance exists to identify and fix responsibilities for the development of air defense priorities? (Check **ALL** applicable boxes)

- ☐ Higher HQs guidance.
- ☐ Unit Staff Officer Guide
- ☐ Unit TSOP
- ☐ Other unit SOPs
- ☐ ADA unit TSOP
- ☐ Other ADA unit SOPs
- ☐ Others (please list)

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COMMENTS:

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8. In what documents are air defense priorities articulated to the command? (Check **ALL** applicable boxes)

- ☐ Body of OPORDS/OPLANS
- ☐ Fire Support Annex
- ☐ Air Defense Annex
- ☐ Airspace Management Annex
- ☐ Unit SOPs
- ☐ ADA unit OPORDS
- ☐ Others (please list)

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COMMENTS:

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9. Please indicate the level of your headquarters.

- ☐ Brigade
- ☐ Battalion

Survey of Command and Control Techniques and Procedures

(Development of Air Defense Priorities)

10. GENERAL COMMENTS (Please include any concepts, techniques or procedures in use which are related to the topic):

APPENDIX C

APPENDIX C (Verbatim Comments to Survey Questions)

This appendix contains the verbatim responses supplied as comments to survey questions 1 through 8 and question 10. Responses have been transcribed verbatim to include any errors in spelling, punctuation or grammar. The level of headquarters which originated the response is indicated following each entry.

Question-1. Which staff members are actively involved in the process of developing air defense priorities within your headquarters?

- Prioritization of limited assets requires wide coordination. (Corps)
- Senior ADA officer advises and recommends specific priorities to the G3 and CofS based upon his guidance from the ADA bn cdr. (Division)
- The ADADO with input form the AD Bn Cdr will write the DIV AD annex to the Opns Order, using the CG's intent as clarified by the Div G3. (Division)
- The Commanding General and Senior ADA staffer are most key. (Division)
- ADC-O and ADC-S are usually involved in the priority system. In almost every instance your have too many point or area targets to protect and too few assets to employ. Friction results. (Division)
- Another player in the process is the ADA BN S3. (Division)
- The supporting ADA commander's input is normally given to the G3 thru the senior ADA staff officer in the G3, the ADADO. (Division)
- CG understands where his priorities should be with regard to ADA protection. He has input from staff and cdrs, but makes his own

decisions. (Division)

- The Assistant Division AD Officer recommends priorities to the G3 and the Chief of Staff for OPLANs. (Division)
- NATO ADA brigades respond to OPLAN's prepared by COMAAFCE & COMFOURATAF. Additional priorities are obtained by joint approval of COMCENTAG and COMFOURATAF based on requests submitted by US Corps. (ADA Brigade)
- As an ADA BDE w/ joint missions, our priorities are inherently joint priorities. As such, we must capture the CINC's intent and concept. To fight the priorities, we array Army ADA as part of the total defensive counterair force. (ADA Brigade)
- ADA BN S3 makes recommended list - sometimes coordinated with Bn Cdr - always gains G3 approval - priorities are then published in Division OPORD. (ADA Battalion)
- Staff actions in the development of these priorities are directed in large part by the guidance of the Commanding General. (ADA Battalion)

Question-2. Who holds the principal staff responsibility for the collection of ALL staff inputs and the synthesis of the air defense priorities within the headquarters?

- G3 works closely with the ADA staff officer. (Corps)
- ADADO is the principal staff officer satisfying the above noted task. (Division)
- If there is a conflict the AD Bn Cdr interfaces directly with the CG, more often than not. (Division)
- The G3 collects inputs on priorities of air defense primarily from the

Division Air Defense Officer and the ADADO based on METT-T, criticality, vulnerability, recuperability, and the threat. (Division)

- If the staff officers or subordinate units desire additional ADA support or want to recommend priorities, they normally contact the ADADO. The ADADO should be seeking input. The G3 brings all inputs together and analyzes; then recommends to the CofS. (Division)
- Actually, the Bde Cdr who serves in dual role as Cdr, Air Defense Operations Liaison Team (COMADOLT) makes most of the decision and assessments which lead to priorities. The Bde Cdr is also the Corps Air Defense Officer of US Corps in Europe. (ADA Brigade)
- In principle the G3, but the ADA Bn Cdr actually does it. (ADA Battalion)
- Collection is the responsibility of the Division G3 with help from the DAME. The Bn S3 and Bn Cdr are involved in the synthesis of the information. (ADA Battalion)

Question-3. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their criticality to the upcoming operation?

- The Plans Cell of the Corps Main includes representatives from all staff sections (to include AD); all contribute to the overall analysis. This is then reviewed by the G3/ Chief of Staff and presented to the Commander by the senior ADA staff officer. (Corps)
- The G3 determines which assets are mission essential and the senior air defense officer determines the type /amount of air defense needed to defend the asset in question. (Division)
- Input is obtained from the G3 and the CofS and is then melded with

guidance from the ADA bn Cmdr to determine which assets are the most critical and defendable by the present ADA structure. (Division)

- The CG has a generic set of priorities and the ADADO using the AD Bn Cdr's input, submits the Annex to the G3 for the specific missions. (Division)
- The ADE and the FSO frequently participate in priority discussion during the development/decision on courses of action. (Division)
- The ADADO/AD Bn Cdr use a priorities determining matrix. Matrix factors include criticality, vulnerability, recuperability and threat. (Division)
- Criticality is nonsense because it is temporary. What air defenders must do to fight is to array and fight the force by the supported commander's intent and purpose. (ADA Brigade)
- The Bde Cdr, as COMADOLT and Corps ADA Officer does the majority of the work with the Air Defense Element. We also use an S3 officer for Bde S3 as a direct liaison to the Corps plans Module in the G3. (ADA Brigade)
- Bn S3 takes the lead. (ADA Battalion)
- Again in principle its the G3, but the ADA Bn Cdr really does it. (ADA Battalion)

Question-4. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their vulnerability to attack from the air?

- Everyone performing their job contributes in someway to the overall effort. However, this is a weak link . . . not well done. (Corps)
- The G3 with input from the G4 and G2 determines the survivability

of an asset on the battle field. The Air Liaison Officer provide technical advice and assesses the assets effectiveness of passive air defense measures based on input from the CAB. (Division)

- Input is obtained from the CofS, the G3 as well as the G2 on enemy air trends, activities, probable targets and upcoming events. (Division)
- The ADADO and the AD Bn Cdr, using the priority assessment matrix determine vulnerability of each asset, subject to approval of the CG thru the G3. (Division)
- The Bde Cdr, as COMADOLT and Corps ADA Officer does the majority of the work with the Air Defense Element. (ADA Brigade)
- Not nearly as meaningful as arraying and fighting the force by the supported CDR's intent and purpose. Cdr's intent - Cdr's organization for combat. (ADA Brigade)
- The BN S3 has the lead on this action. (ADA Battalion)
- This wasn't being done until we conducted exercises where enemy air activity changed the ground tactical plan. (ADA Battalion)

Question-5. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine their recuperability (the command's ability to reconstitute the asset) following damage or destruction by air attack?

- Exercise scenarios usually fall short of assessing air damage. (Corps)
- The ADADO and the AD BN CDR do this assessment subject to approval of the CG thru the G3. (Division)
- Input is obtained from the CofS, the G3 as well as the G4 on the likelihood of replacements, augmentation, transfers and upcoming

events. (Division)

- The G3 with input from the G4 and unit commanders assess the degree to which an asset can recover form an air attack in order to accomplish the mission. (Division)
- The senior ADA staff officer collects the input and makes the recommendation. (Division)
- The Bde Cdr, as COMADOLT and Corps ADA Officer does the majority of the work with the Air Defense Element, but this aspect generally receives little attention. (ADA Brigade)
- Again, not very meaningful when compared to the supported unit commander's intent. (ADA Brigade)
- Bn S3 takes the lead on this one too. (ADA Battalion)
- This is very important in the Light Division. The Logistics tail is the most vulnerable. Light Inf. is hard to detect. (ADA Battalion)

Question-6. Which staff members contribute to an analysis of the command's assets (units, facilities, or capabilities) to determine the enemy's ability to target and successfully attack the asset using air power?

- G2 estimates enemy capabilities and intentions, but rarely deals with the air threat in this detail. (Corps)
- G2 estimate is usually based on doctrine; ADA staff officer's on available ADA coverage; it results in a very imprecise analysis. (Corps)
- Accurate threat analysis is essential to our establishment of priorities, but we don't do this very well. (Division)
- This function goes into the priority assessment matrix, but it depends on the G2's estimate of the threat, which is unsophisticated

in this area. (Division)

- Input is obtained from the CofS, the G3 as well as the G2 on enemy activity and projections of future ops. (Division)
- The G3 with primary input from the G2 assesses the enemy's air threat capabilities. (Division)
- The G2 has the lead. The ALO advises on technical capabilities and comparison of friendly ability to target/attack with air power. (Division)
- This is a major problem. Typically, I send the Bde S2 to work in the G2 section with the primary job of preparing enemy air threat info. (ADA Brigade)
- KEY, KEY analysis activity. Involves IPB (an air defender's IPB), an appreciation of frontal/independent AVN capabilities and command and control, as well as what other DCA team members do to kill the threat before you must fight him. Bottom line - most likely threat & frontal & independent AVN COAs. (ADA Brigade)
- USAF agencies can best provide, but we never get this! (ADA Battalion)
- Most G2s do not put in this input. (ADA Battalion)

Question 7. What guidance exists to identify and fix responsibilities for the development of air defense priorities within your headquarters?

- FM 100-5, FM 101-5 and procedural precedent. (Corps)
- We use the matrix system developed at the ADA school. (Division)
- We rely to large extent on the AD Priority assessment handbook published by our AD Bn. (Division)
- Corps FSOP guides the Div TSOP; the ADA Bn TSOP sets for the exact

guidelines as to how and by who ADA priorities are developed. (Division)

- An analysis of METT-T is the primary method of determining the division's air defense priorities. (Division)
- The battle staff SOP must be revised to incorporate more detail for providing standard operating guidance in this area. (Division)
- Very little. (Division)
- Guidance is very limited and generally insufficient. (Division)
- Extensive guidance exists in COMAAFCE and COM4ATAF OPLANs. AADCOM also publishes GDP guidance. I collect and consolidate guidance in the Bde GDP. We also publish the air defense annex to the Corps GDP. (ADA Brigade)
- Very little. (ADA Battalion)
- Tradition! ! (ADA Battalion)
- Cdr's intent to subordinate MSC's and staff. (ADA Battalion)

Question 8. In what documents are air defense priorities articulated to the command?

- The defensive counterair portion of the order. (Corps)
- The trend is toward the "counter air" section of the OPORD or OPLAN. (Division)
- The AD annex & AD Bn OPORD list priorities as reflected by the priority assessment matrix. These recommendations reflect the CG's intent as to what he values most and appear in the Div OPORD. (Division)
- This normally happens outside written documentation, often face to face between the FSE/Intel/EW/A2C2 and ADADO. OPORDS set forth

the ADA priorities for subordinate units. (Division)

- Indirectly through Cmdr's guidance and intent. By the chain of command based on OPLANS and OPORDS. (Division)

Questions 10 (General Comments).

- Currently ADA priorities in the Corps compete with those of 4ATAF and CENTAG for area coverage by Patriot and Hawk. Usually only the highest 2 or 3 Corps priorities have any chance for competing successfully on the priorities list, and then for area coverage only. There are no point defense systems available. (Corps)
- A light Inf Division does not present very many high priority targets to enemy air mission planners. Our division airfield may be number one with the DSA second. The Division Main CP is small enough to move and to use other passive defense measures. I'm more and more interested in dual purpose positioning of vulcans where they can cover potential LZs as well as provide area coverage of a division facility. We need to look at a dual purpose gun system that can be used in the ground support role to immobilize a tank (not kill) and also defeat helicopters and some fixed wing aircraft. (Division)
- Our order of priority significance is (1) criticality, (2) threat, (3) vulnerability, and (4) recuperability. We never have more that 4 priorities at each level of headquarters. The first priority is nearly always a maneuver brigade. In the defense we prioritize more rearward. (Division)
- We use the priority matrix to set AD priorities IAW the CG's intent as articulated by the Div G3. In the event of a conflict the AD Bn Cdr and the CG work out a resolution. (Division)

- Designating ADA priorities is not a well understood subject. CG guidance sets the parameters for priority development, but task organization often drives employment rather than priorities. Good communication and coordination between staff groups is the key to making the process work. We still have work to do on defining the process and fixing responsibility. (Division)
- The fundamentals of air defense are utilized to determine the division's air defense priorities. The G3 is the primary determinant of the air defense priorities within the division utilizing input form other division staff members. The Division Air Defense Officer develops an air defense design based on (1) the employment principles of mass, mix, mobility, and integration; (2) air defense employment guidelines of balance fires, weighted coverage, mutual support, overlapping fires, early engagement, and defense in depth; and (3) the defense design requirements in accordance with a METT-T analysis. (Division)
- The Division's AD BN Cdr must be aggressive to overcome peacetime inertia w/ regard to viable AD planning. (Division)
- Priorities are developed in course of the METT-T analysis by the Division AD officer. The mission of the Division AD Battalion is to protect the Division. That mission cannot be planned without appropriate METT-T analysis which considers the factors used to determine the priorities. The AD priority matrix is used as a worksheet in the estimate process of the ADADO. The development of any priorities requires the involvement of all staff officers. The ADA officer should aggressively seek input prior to his recommendation to the G3. (Division)

- Airspace management and the air scheme of maneuver should be the responsibility of the maneuver unit G3 - as the ground scheme of maneuver is! It is generally relegated to the ADA officer by default. (ADA Brigade)
- Development of air defense priorities and threats is a fairly straight forward process for the Bde. However, execution via C3 network is complicated. First, Bde is under op/tac control of 4ATAF and maintains VHF with higher. C2 most often is executed by messages exchanged with little planner to planner or cdr to cdr discussion. The Bde executes C2 with Patriot Bns and Hawk Bn via VHF, FM & AM . . . Primary control functions from Bde is a composite design. Bde presence at Corps is executed by the ADE teams and the Bde Cdr who act as the Corps ADA officer. Bde S2 and S3 officers work with the G2 and G3. Bde maintains a planing and early warning link with the SHORAD Bns of the two division in the Corps. Cdrs attempt to integrate air defense and airspace management planning. (ADA Brigade)
- I find that only ADA used the words criticality, vulnerability, recuperability and threat. Maneuver commanders and staff use the acronym METT-T. We talk a different language, so we don't communicate well. Currently, ADA priorities are assigned in the division based on the CG's desires. He does confer with subordinate commanders and staff officers, but its still a marshmallowy solution based largely on experience (which our Army is sadly lacking) and guesswork. (ADA Battalion)
- Our theory is that the mission of the counterair effort is not so much the protection of units, facilities and /or capabilities as it is the

protection of the integrity of the division commander's plan. To arrive at the current priorities, the analysis must begin with a complete in depth understanding of the commander's intent and concept of the operation. Once you identify the key elements of the plan that must be preserved in order to ensure its success, the ADA priorities almost naturally rise to the surface. (ADA Battalion)

- Development of air defense priorities is dependent upon the configuration of the organic air defense units and/or attached assets. In an armored division, the Vulcans and Stinger are usually pushed forward because of their limited range and their maneuverability. The loss of Chaparrals to the Corps ADA Brigade has force a reassessment of air defense priorities since the capabilities of that system cannot be depended upon. The ADA Bn S3 and the Division G3 must work closely to ensure that proper allocation of ADA assets and to integrate any other ADA assets in the division area to compensate for this loss. The differences in Chaparral vs Redeye/Stinger also causes some changes in priorities of what and how much can be protected. The DAME is a critical link in the establishment of ADA priorities because of its habitual association with the division staff and its presence in the Division TOC/TAC during critical planning periods The DAME works directly with the Bn S3, Bn Cdr and the Div G3 in the analysis of the threat, recommendations for priorities and the writing of ADA annexes. (ADA Battalion)

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INITIAL DISTRIBUTION LIST

1. MG Donald R. Infante
Commandant
USAADSCH
Fort Bliss, Texas 79916

2. BG Donald M. Lionetti
Assistant Commandant
USAADSCH
Fort Bliss, Texas 79916

3. COL James L. Morrison
2936 Buckingham Road
Durham, North Carolina 27707

4. COL Zigmund J. Roebuck
Commander
35th Air Defense Artillery Brigade
Fort Lewis, Washington 98433

5. LTC James P. Durbin
Combined Arms Services Staff School
USACGSC
Fort Leavenworth, Kansas 66027-6900

6. LTC Hugh R. Leonard
Commander
1st Battalion, 44th Air Defense Artillery
Fort Lewis, Washington 98433

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