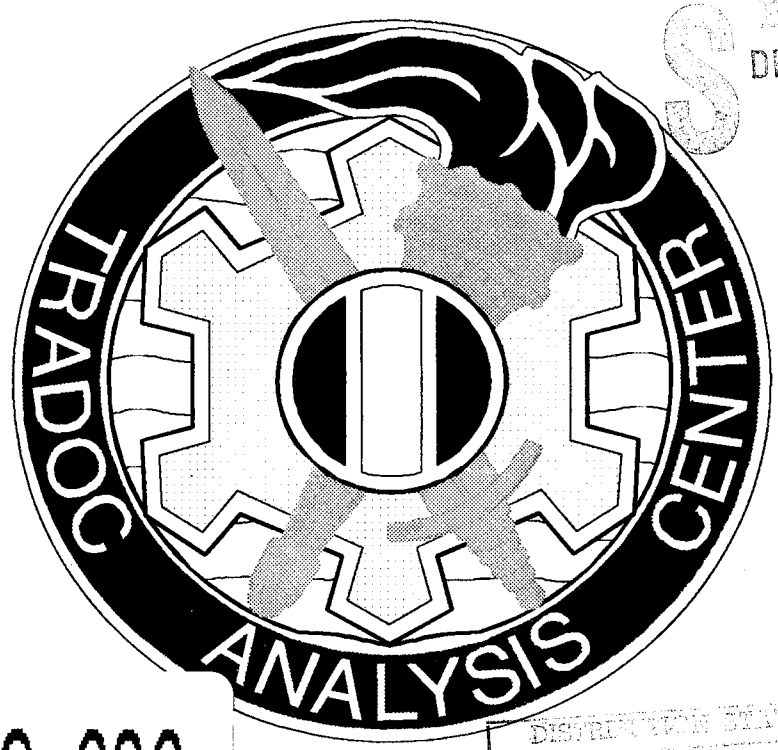
Technical Report TRAC-TR-1494
September 1994

EARLY ENTRY FORCE ANALYSIS

FINAL REPORT



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Fort Leavenworth, Kansas 66027-5200

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EARLY ENTRY FORCE ANALYSIS

FINAL REPORT

by

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The Early Entry Force Analysis (EEFA) study was conducted by the Study Directorate of the Training and Doctrine Command (TRADOC) Analysis Center (TRAC) in support of the Early Entry Lethality and Survivability (EELS) Battle Lab. This document is the final report for the EEFA study and examined the Louisiana Maneuvers 94 issues of determining how to make light forces more lethal, survivable, tactically mobile, and sustainable and determining the potential contribution to the battlefield by middleweight units, light enough for rapid force projection, yet tactically mobile and lethal. A new methodology for determining force packages was developed. Objective lightweight and objective middleweight force packages for the European Command (EUCOM) 11 using this methodology were developed. The methodology and foundations of an integer goal program for force packages were also developed. The analytical insights and conclusions show the improvements which can be made to early entry forces.

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ABSTRACT

The Early Entry Force Analysis (EEFA) study was conducted by the Study Directorate of the Training and Doctrine Command (TRADOC) Analysis Center (TRAC) in support of the Early Entry Lethality and Survivability (EELS) Battle Lab. This document is the final report for the EEFA study and examined the Louisiana Maneuvers 94 issues of determining how to make light forces more lethal, survivable, tactically mobile, and sustainable and determining the potential contribution to the battlefield by middleweight units, light enough for rapid force projection, yet tactically mobile and lethal. A new methodology for determining force packages was developed. Objective lightweight and objective middleweight force packages for the European Command (EUCOM) 11 Scenario using this methodology were developed. The methodology and foundations of an integer goal program for force packages were also developed. The analytical insights and conclusions show the improvements which can be made to early entry forces.

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EARLY ENTRY FORCE ANALYSIS
EXECUTIVE SUMMARY

1. Purpose. The Early Entry Force Analysis study was conducted to address two sub-issues from the Louisiana Maneuvers (LAM) 94 issue: More Lethal, Survivable, Deployable Forces. Existing early entry forces lack the lethality, survivability, deployability, sustainability, and tactical mobility to meet future force projection needs. This study examined lightweight forces capable of being more lethal, survivable, sustainable, and tactically mobile, and middleweight forces which are capable of being deployed quickly without losing any tactical mobility or lethality.

2. Introduction.

a. *Background.*

(1) Existing Army early entry capability focuses on deterrence through deployment, with lethality, survivability, and sustainability to be built up over time. However, Operation Desert Shield exposed the vulnerabilities of our "first to arrive", lightly equipped contingency forces to a threat equipped with heavy armor. With the current unrest in the world, continuing regional disputes, and U. S. military responsibility to act in defense of national interests, the opportunity to exercise future early entry operations will probably increase. In such future operations, it is unlikely potential enemies will grant U. S. forces time to build combat power, and time is needed to transport our heavy forces. The future Army must have the capability to conduct early entry operations with tailored armored, light, and special operations forces that have the warfighting characteristics of being more deployable, lethal, survivable, sustainable, and tactically mobile.

(2) The Early Entry Lethality and Survivability Battle Lab (EELS BL) designed a light, early entry force consisting of a quick-response, brigade-sized force (referred to as a 2K force) and a follow-on middleweight force somewhat smaller than a division (referred to as a 10K force) as part of the 2K and 10K Force Analysis studies. The results from these studies provided the direction for this LAM 94 study effort.

(3) Two generalized force packages were defined for the European Command (EUCOM) 11 Scenario:

(a) Since the National Military Strategy (NMS) Army Strategic Mobility Program specifies the lead division will be fully deployed by C+12, an Army lightweight force was defined to be fully deployed by C+12, primarily by air. This force is examined in this study as the Army component of a joint ground force which includes Marine units already ashore. The Army lightweight force has enough lethality to secure and retain a lodgment for up to 12 days from the time of initial entry (C+4).

(b) An Army middleweight force can be fully deployed by C+21, primarily by sealift, and can seize and retain a lodgment for up to 21 days. The Army middleweight force sustainment tail requires a seaport with the capacity found in a typical third world nation to effect resupply.

(c) Both force packages have task organized assets to move necessary force to meet tactical requirements, the lethality to deny the enemy the ability to continue proposed operations, and the survivability to conduct follow-on operations. Both packages are sustainable using a combination of air and sealift.

b. The objectives of the study were:

(1) To determine how to make light forces more lethal, survivable, tactically mobile, and sustainable.

(2) To determine the potential contribution to the battlefield by middleweight units, light enough for rapid force projection, yet tactically mobile and lethal.

c. *Scope.*

(1) The EUCOM 11 Scenario was developed for this analysis and study-certified by Training and Doctrine Command (TRADOC) Analysis Center (TRAC) Scenario and Wargaming Center (SWC). EUCOM 11 contains an early entry mission; however, because of the configuration of the terrain, there is not enough of a close fight to properly assess close-range and extended close-range systems.

(2) The 10K Prime Force recommended in the 10K Force Analysis study was used as the basis for the Army middleweight force. This force was patterned on an existing division (-) force package with the addition of new technology such as Longbow, LOSAT, NLOS, and smart munitions.

(3) Blue force structures are primarily 2001, but include some non-POM equipment.

(4) Threat force year is 2006.

(5) Conventional and unconventional units and weapons were addressed in the study. Unconventional weapons were limited to chemical munitions.

(6) Since the emphasis in the NMS is on decisive victory with minimum casualties, the study provided estimates of personnel casualties.

d. *Assumptions.*

(1) System definitions would be available in sufficient detail for evaluation purposes.

(2) Threat doctrine, equipment, and force structure projections through 2006 were accurate.

(3) Blue doctrine and equipment projections were accurate.

(4) Host Nation doctrine, equipment, and force structure projections through 2001 were accurate.

(5) Approved surrogate data would be available for identified data deficiencies.

(6) Supply requirements based on Army planning factors were representative of actual supply consumption.

(7) An Army lightweight or Army middleweight force was the only force available for this scenario.

3. Methodology.

a. The methodology consisted of four major parts: an initial input, a force sufficiency analysis, a sensitivity analysis, and a force tailoring analysis. Figure ES-1 shows the methodology.

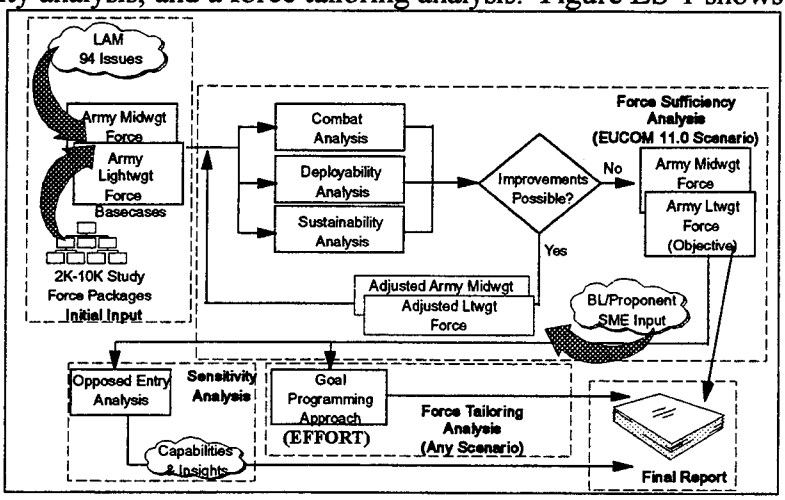

Figure ES-1. Methodology

(1) The initial input. The initial input used the results of the 2K and 10K analyses and the sub-issues and guidance from the LAM 94: More Lethal, Survivable, Deployable Force Issue to develop a base case force package for the Army lightweight and Army middleweight forces.

(2) The force sufficiency analysis.

(a) The force sufficiency analysis used the base case force packages to conduct combat, deployability, and sustainability sub-analyses to determine objective packages for an unopposed entry. Accomplishing this task required an iterative effort where the lightweight and middleweight forces were adjusted until no additional improvement in the force could be obtained. Success was based on attainment of goals for force sufficiency criteria, and the comparison of force performance against these goals determined whether additional improvement could be obtained. Combat analysis using Vector-in-Commander (VIC) provided lethality and survivability performance data. Deployment analysis using Transportability Analysis Reports

Generator (TARGET) and Mobility Analysis Support System (MASS) models supplied deployability data. Sustainment data was provided by sustainment analysis using Supply Usage Requirements Estimator (SURE).

(b) All analyses used the EUCOM 11 Scenario. The resulting force packages from the force sufficiency analysis are referred to as the "objective Army lightweight force package" and the "objective Army middleweight force package."

(3) The sensitivity analysis. The sensitivity analysis used the lightweight objective package to conduct additional combat analyses to measure the objective force package's capability to perform opposed entry missions. To gauge this capability, the initiation of combat was varied against force closure for the objective force package. An analysis by MTMC TEA and Air Mobility Command (AMC) using MASS determined what assets the objective force package would have at 75 percent closure (75 percent of short tons (STONs)). A combat analysis was conducted to ascertain if this reduced force would be successful in retaining the lodgment. If it was successful, the process was repeated for an analysis of 50 percent closure.

(4) The force tailoring analysis. EFFORT was created to assist in tailoring a force for any early entry scenario. It emulates the process followed in the force sufficiency analysis without requiring the use of the large simulations. EFFORT uses a goal program which balances the tradeoffs among the force's warfighting characteristics of lethality, survivability, deployability, and sustainability, and used the sufficiency criteria of the early entry mission. The user can build a force from the ground up, or start with a base force and make modifications to it.

4. Discussion.

a. *The Army Lightweight Force.*

(1) The Army Lightweight Basecase package was based on a Light Infantry Division with current systems and included three Light Infantry Brigades, an OH58D Recon Battalion, and an OH58D Attack Battalion. Deep fires were provided by an MLRS Battery and an AH64D Battalion. A Hawk Battery and an Avenger Battery supplied ADA support. Although not a current system, an AGS Battalion was also included in the force package at the suggestion of EELS BL. The Army Lightweight Force Basecase structure is shown in Figure ES-2. The basecase package was weak in the characteristics of lethality and deployability, so an attempt was made to improve the force in those characteristics.

(2) Three adjustments were made and each adjustment was analyzed to determine how well it performed in the four warfighting characteristics. Adjustment #3 performed the best in lethality and sustainability and better than the basecase in survivability and deployability. Overall Adjustment #3 was the best. Figure ES-3 shows the Army Lightweight Adjustment # 3 Force package.

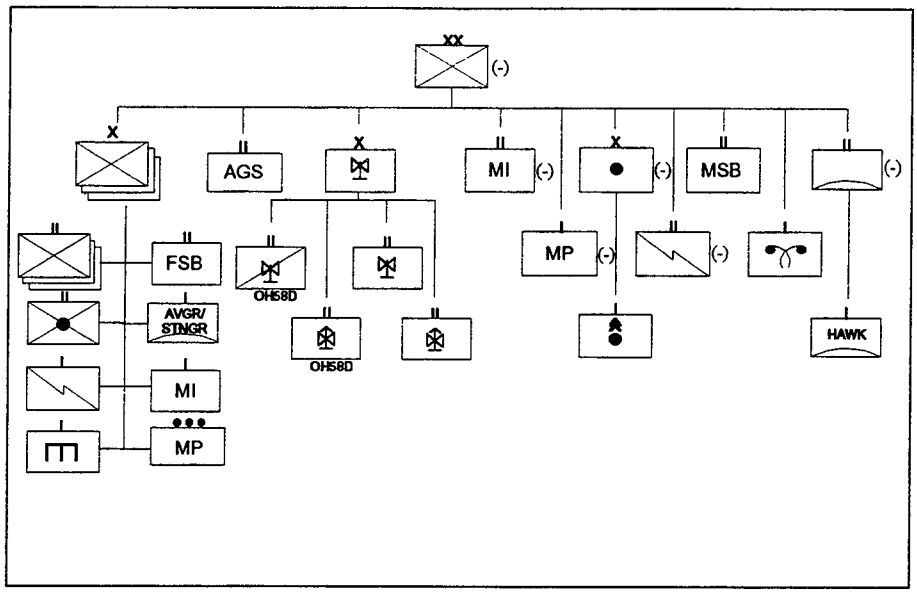

Figure ES-2. Army Lightweight Basecase

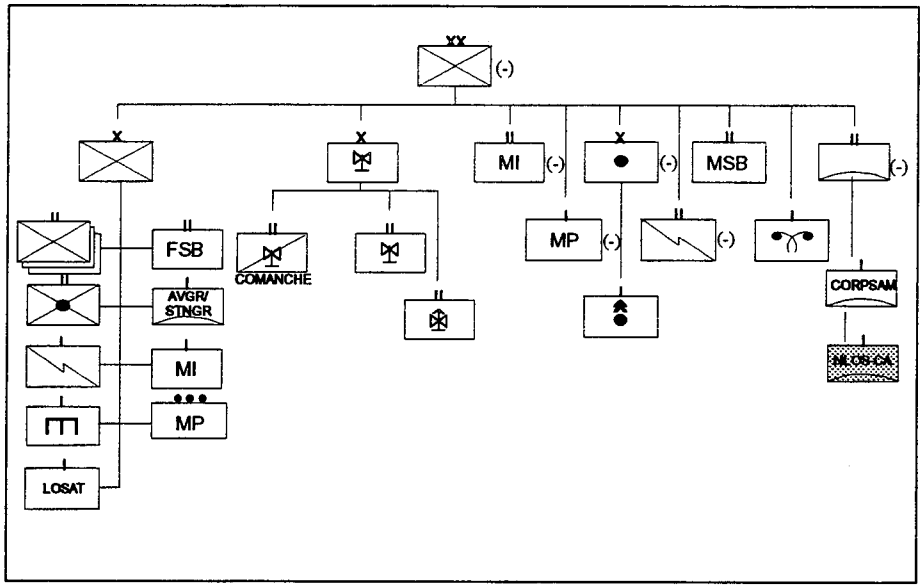

Figure ES-3. Army Lightweight Adjustment #3

b. *The Army Middleweight Force.*

(1) The Army Middleweight Basecase is the 10K Prime Force package from the 10K Analysis study. The package included a Light Infantry Brigade, a Comanche Recon Battalion, a HIMARS Battery, and a Corps SAM Battery. A balanced Mechanized Infantry Brigade used equipment Prepositioned Afloat. The Army Middleweight Basecase package is shown in Figure ES-4. An analysis of the initial performance of the Army Middleweight Force Basecase indicated the package had room for improvement in the characteristics of lethality and sustainability.

(2) Overall, no significant improvement was made from the basecase after two adjustments. Based on this the Army Middleweight Force Basecase was selected as the Army Middleweight Force objective package. The basecase package was recommended as an early entry force package in the 10k Analysis Study where it had been refined and examined. This study simply validated the results of that study.

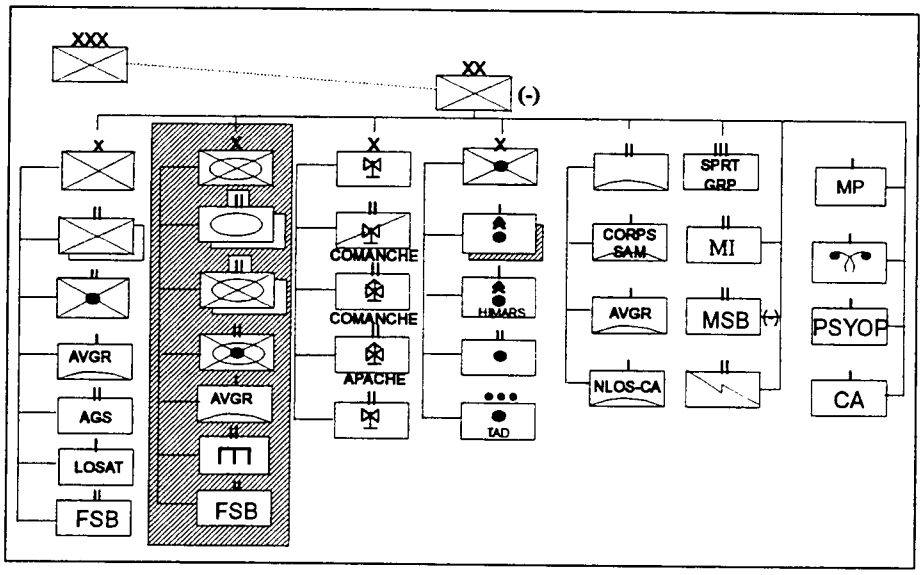

Figure ES-4. Army Middleweight Basecase

5. Conclusions.

a. *The Army Lightweight Force.* The Army Lightweight Force Adjustment # 3 was better than the basecase in all four warfighting characteristics. Overall, it was the best of all the lightweight force packages. In the lightweight analysis, Adjustment # 3 maximized lethality and survivability and minimized deployability and sustainability requirements.

b. *The Army Middleweight Force.* Although two adjustments were made in the Army Middleweight Force Analysis, neither adjustment performed as well across the warfighting characteristics as the basecase force, which was the 10K Prime Force from the 10K Analysis Study. In the initial analysis of its performance, the Army Middleweight Force Basecase achieved nearly 100 percent of the goal for the two top priority warfighting characteristics of deployability and survivability.

c. *Deployability.* The expected percentage of total daily lift allocated to the Army will not be enough to meet the deployability goals. The Army Lightweight Force requires in excess of two-thirds of the total daily lift, while the Army Middleweight Force requires only slightly more than the Army's expected share. Just a ten percent increase in daily lift will result in three to five days less deployment time.

d. *Lethality.*

(1) Though MLRS and Lightweight 155mm improve lethality, both are more costly in deployability. MLRS precision strikes are limited by the amount of ammunition, not the number of launchers.

(2) Advanced technology systems increase lethality while decreasing sustainment.

(3) The Army Lightweight Force was reduced in half without major changes in lethality, survivability, or sustainability.

(4) Opposed entry mission success can be assured with careful tailoring of units and unit sequencing.

e. *Methodology.*

(1) In the past the methodology to determine a new force package involved subject matter experts proposing usually two to three alternatives. These packages, with the current force package as a base case, were fought in a combat simulation against a specific type threat, and the results were analyzed to establish which force package was "the best."

(2) The methodology for this study started with an analysis of a base case package which identified the package deficiencies measured against predetermined goals. Processes, which determine the units to delete to improve the force, and the units to add to improve force performance, are used to modify the previous force package. This package is examined for deficiencies, and the process is continued until no significant improvement can be obtained.

(3) The Army analytic community must develop new methods, which investigate the entire range of alternatives, to resolve what is best for the Army. The methodology developed for this study could be applied in future studies.

f. *Prairie Warrior '95.* Lessons learned from the Army Lightweight Force Analysis and the Army Middleweight Force Analysis; the Threat, terrain, and weather from the NEA scenario; and the goals and weights from decision makers could be used in EFFORT to determine an early entry force package for Prairie Warrior '95. Although EFFORT requires some additional work to make it a user-friendly tool for decision makers in designing any early entry force, it is far enough along in its development to complete this task.

6. Recommendations.

a. Approve adjustment #3 as the objective Army Lightweight Force for EUCOM 11.

b. Retain the basecase (10K Prime from the 10K Force Analysis Study) as the objective Army Middleweight Force for EUCOM 11.

c. Continue work on EFFORT with the goal of a deliverable product to planners.

d. Use the analytical force packaging methodology including EFFORT to determine the early entry force for GHQ 95 and Prairie Warrior 95.

EARLY ENTRY FORCE ANALYSIS
CHAPTER 1
INTRODUCTION

1-1. Purpose. The Early Entry Force Analysis study was conducted to address two sub-issues from the Louisiana Maneuvers (LAM) 94 issue: More Lethal, Survivable, Deployable Forces. Existing early entry forces lack the lethality, survivability, deployability, sustainability, and tactical mobility to meet future force projection needs. This study examined lightweight forces capable of being more lethal, survivable, sustainable, and tactically mobile, and middleweight forces which are capable of being deployed quickly without losing any tactical mobility or lethality.

1-2. Background.

a. Existing Army early entry capability focuses on deterrence through deployment, with lethality, survivability, and sustainability to be built up over time. However, Operation Desert Shield exposed the vulnerabilities of our "first to arrive", lightly equipped contingency forces to a threat equipped with heavy armor. With the current unrest in the world, continuing regional disputes, and U. S. military responsibility to act in defense of national interests, the opportunity to exercise future early entry operations will probably increase. In such future operations, it is unlikely potential enemies will grant U. S. forces time to build combat power, and time is needed to transport our heavy forces. The future Army must have the capability to conduct early entry operations with tailored armored, light, and special operations forces that have the warfighting characteristics of being more deployable, lethal, survivable, sustainable, and tactically mobile.

b. The Early Entry Lethality and Survivability Battle Lab (EELS BL) designed a light, early entry force consisting of a quick-response, brigade-sized force (referred to as a 2K force) and a follow-on middleweight force somewhat smaller than a division (referred to as a 10K force) as part of the 2K and 10K Force Analysis studies. The results from these studies provided the direction for this LAM 94 study effort.

c. Two generalized force packages were defined for the European Command (EUCOM) 11 Scenario:

(1) Since the National Military Strategy (NMS) Army Strategic Mobility Program specifies the lead division will be fully deployed by C+12, an Army lightweight force was defined to be fully deployed by C+12, primarily by air. This force is examined in this study as the Army component of a joint ground force which includes Marine units already ashore. The Army lightweight force has enough lethality to secure and retain a lodgment for up to 12 days from the time of initial entry (C+4).

(2) An Army middleweight force can be fully deployed by C+21, primarily by sealift, and can seize and retain a lodgment for up to 21 days. The Army middleweight force sustainment tail requires a seaport with the capacity found in a typical third world nation to effect resupply.

(3) Both force packages have task organized assets to move necessary force to meet tactical requirements, the lethality to deny the enemy the ability to continue proposed operations, and the survivability to conduct follow-on operations. Both packages are sustainable using a combination of air and sealift.

1-3. Study objectives. The objectives of the study were:

a. To determine how to make light forces more lethal, survivable, tactically mobile, and sustainable.

b. To determine the potential contribution to the battlefield by middleweight units, light enough for rapid force projection, yet tactically mobile and lethal.

1-4. Scope.

a. The EUCOM 11 Scenario was developed for this analysis and study-certified by Training and Doctrine Command (TRADOC) Analysis Center (TRAC) Scenario and Wargaming Center (SWC). EUCOM 11 contains an early entry mission; however, because of the configuration of the terrain, there is not enough of a close fight to properly assess close-range and extended close-range systems.

b. The 10K Prime Force recommended in the 10K Force Analysis study was used as the basis for the Army middleweight force. This force was patterned on an existing division (-) force package with the addition of new technology such as Longbow, LOSAT, NLOS, and smart munitions.

c. Blue force structures are primarily 2001, but include some non-POM equipment.

d. Threat force year is 2006.

e. Conventional and unconventional units and weapons were addressed in the study. Unconventional weapons were limited to chemical munitions.

f. Since the emphasis in the NMS is on decisive victory with minimum casualties, the study provided estimates of personnel casualties.

1-5. Assumptions.

a. System definitions would be available in sufficient detail for evaluation purposes.

b. Threat doctrine, equipment, and force structure projections through 2006 were accurate.

c. Blue doctrine and equipment projections were accurate.

d. Host Nation doctrine, equipment, and force structure projections through 2001 were accurate.

e. Approved surrogate data would be available for identified data deficiencies.

f. Supply requirements based on Army planning factors were representative of actual supply consumption.

g. An Army lightweight or Army middleweight force was the only force available for this scenario.

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EARLY ENTRY FORCE ANALYSIS
CHAPTER 2
METHODOLOGY

2-1. Models. Models and analytic tools include:

a. *Vector-in-Commander (VIC).* VIC is an automated corps- and division-level force-on-force simulation. It is a fast-running analytical tool capable of evaluating operational concepts, tactics, and doctrine. VIC is deterministic, event-sequenced, Lanchester equation-based, and represents all major battlefield functions. It is written in SIMSCRIPT II.5 and executes on SUN or Hewlett-Packard computers. For Blue forces, the normal level of resolution is maneuver and artillery battalions, air defense batteries, cavalry troops, and helicopter companies. Red maneuver forces are represented to battalion level; Red reconnaissance, air defense, antitank, and helicopters are represented to battery and troop level. Special units (i.e., supply convoys, engineer assets, and fixed-wing aircraft) are represented at higher resolution. VIC-automated C2 is influenced by a unit's evaluation of its tactical situation based on perceived information. Unit actions and reactions are based on tactical decision rules embedded in the model which are modified for each scenario.

b. *Transportability Analysis Reports Generator (TARGET).* The TARGET unit deployability model merges unit equipment authorization data from TRADOC's Table of Organization and Equipment (TO&E) Master File with the equipment item data from the U.S. Army Forces Command's (FORSCOM) Computerized Movement Planning and Status System (COMPASS) Equipment Characteristics File (ECF). The TARGET program determines the unit deployment data required for strategic mobility planning, resulting in unit deployment data and sortie requirements.

c. *Mobility Analysis Support System (MASS).* MASS is a large, global airlift simulation used for evaluating airlift throughput in a wartime scenario. Inputs to the MASS model include a Joint time-phased force deployment list (TPFDL), airlift networks, and an airlift fleet mix of different aircraft types. The MASS model was used to estimate the early entry force closure profiles.

d. *Supply Usage Requirements Estimator (SURE).* SURE was developed by U.S. Army Combined Arms Support Command (CASCOM) to provide an automated method for computing supply usage requirements for Supply Classes I, II, III (bulk), IV, V, VI, VIII, and water. The SURE program provides a standardized, automated, and self-contained capability for Army logisticians to compute requirements for a single unit or for a task force in a variety of scenarios. For ammunition and fuel SURE uses DA approved operational planning factors extracted from the Bulk Petroleum Requirements Determination Template (Bulk POL RDT) and the Ammunition Requirements Determination Template (AMMO RDT), both of which were produced by the CASCOM.

e. *The Early Entry Force Tailoring Tool (EFFORT).*

(1) EFFORT uses an integer goal programming approach incorporating the unit characteristics of lethality, survivability, deployability, sustainability, and tactical mobility to enable decision makers to tailor an early entry force. The integer goal programming approach was chosen as the best means to design a force package which would satisfy the multiple objectives inherent in the warfighting characteristics. It allows for flexibility in meeting the goals for the warfighting characteristics and ensures a minimum deviation between the goal and the actual accomplishment.

(2) For any scenario or environment, constraints can be established using output from combat models, or the decision makers can use their expertise to prescribe the constraints. The decision maker can examine "what-ifs" by setting the constraints and testing the resultant force package in a combat model. Additional information on EFFORT can be found in Appendix F.

f. *The Sufficiency Criteria for Realignment Adjustment Processor (SCRAP).* SCRAP is a spreadsheet that determines a unit's contribution to the force's performance in a particular scenario in order to identify which units should be deleted from the force. Force performance is measured by calculating the force's level of goal achievement, based on simulation results, for a set of criteria associated with each warfighting characteristic. A unit's contribution to force performance is calculated as a percent of deviation from each goal. SCRAP summarizes each unit's contribution to all goals to allow a comparison of unit contributions. Units that make a poor contribution to the force's performance become candidates for deletion from the force.

g. *Force Package Planner (FORP).* FORP uses the C Language Integrated Production System (CLIPS), an expert system, to determine which units to add to the force package to improve its accomplishment of the FSC goals. The data base includes each kind of unit which can contribute to the attainment of an FSC. These contributions are measured in seven possible significance levels. These levels are significant improvement, moderate improvement, little improvement, no effect, little hindrance, moderate hindrance, and significant hindrance. An iterative process is used starting with the highest significance level and gradually reducing the level until at least one unit is found which will improve the force package.

2-2. Study methodology overview.

The methodology consisted of four major parts: an initial input, a force sufficiency analysis, a sensitivity analysis, and a force tailoring analysis. Figure 2-1 shows the methodology.

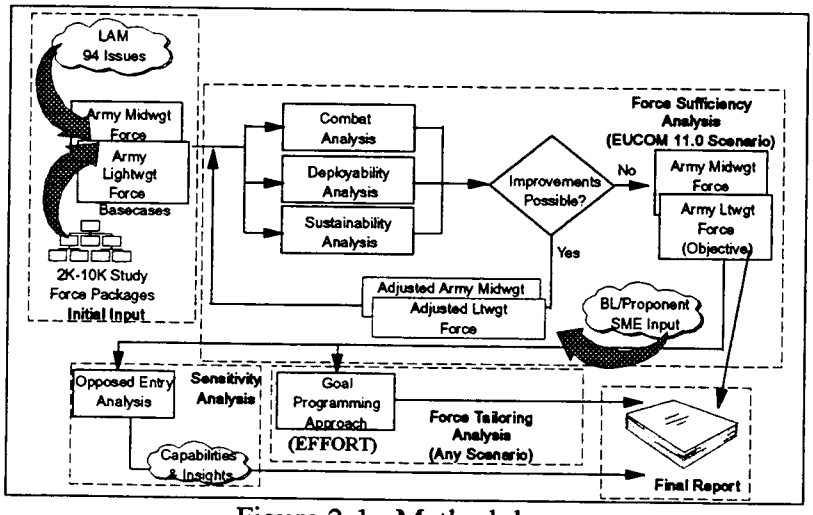

Figure 2-1. Methodology

a. *The initial input.* The initial input used the results of the 2K and

10K analyses and the sub-issues and guidance from the LAM 94: More Lethal, Survivable, Deployable Force Issue to develop a base case force package for the Army lightweight and Army middleweight forces. The Army lightweight force is composed of a light infantry division with an MLRS battery, AH64D battalion, and AGS battalion. The Army middleweight force consists of the 10K Prime force, developed by the EELS BL, and a balanced heavy brigade (PREPO Afloat). These force packages were selected because the light infantry division is the force assigned to respond to this theater's early entry mission and the middleweight force package represents the forces expected to be more robust than the lighter force in performing the same early entry mission.

b. *The force sufficiency analysis.*

(1) The force sufficiency analysis used the base case force packages to conduct combat, deployability, and sustainability sub-analyses to determine objective packages for an unopposed entry. Accomplishing this task required an iterative effort where the lightweight and middleweight forces were adjusted until no additional improvement in the force could be obtained. Success was based on attainment of goals for force sufficiency criteria, and the comparison of force performance against these goals determined whether additional improvement could be obtained.

(2) To obtain lethality and survivability performance data for comparison against the force sufficiency criteria's lethality and survivability goals, TRAC Study and Analysis Center (TRAC-SAC) conducted the combat analysis using the simulation model VIC.

(3) The deployment analysis was conducted jointly by the Military Traffic Management Command Transportation Engineering Agency (MTMC TEA) and the Air Mobility Command (AMC) utilizing TARGET and MASS models to obtain deployment and closure performance data for comparison against the force sufficiency criteria's deployment and closure goals. The deployment analysis can be found in Appendix E.

(4) Utilizing SURE, TRAC-LEE conducted the sustainment analysis to obtain sustainment performance data for comparison against the force sufficiency criteria's sustainment goals. The sustainment analysis can be found in Appendix D.

(5) All analyses used the EUCOM 11 Scenario. The resulting force packages from the force sufficiency analysis are referred to as the "objective Army lightweight force package" and the "objective Army middleweight force package."

c. *The sensitivity analysis.* The sensitivity analysis used the lightweight objective package to conduct additional combat analyses to measure the objective force package's capability to perform opposed entry missions. To gauge this capability, the initiation of combat was varied against force closure for the objective force package. An analysis by MTMC TEA and AMC using MASS determined what assets the objective force package would have at 75 percent closure (75 percent of short tons (STONs)). A combat analysis was conducted to ascertain if this reduced

force would be successful in retaining the lodgment. If it was successful, the process was repeated for an analysis of 50 percent closure.

d. *The force tailoring analysis.* EFFORT was created to assist in tailoring a force for any early entry scenario. It emulates the process followed in the force sufficiency analysis without requiring the use of the large simulations. EFFORT uses a goal program which balances the tradeoffs among the force's warfighting characteristics of lethality, survivability, deployability, and sustainability, and used the sufficiency criteria of the early entry mission. The user can build a force from the ground up, or start with a base force and make modifications to it.

2-3. The adjustment process.

a. *Introduction.* In the force sufficiency analysis an adjustment process was conducted. The purpose of the process was to modify the force package to improve the force performance.

b. *Basic concept.*

(1) FSC were identified for each warfighting characteristic of deployability, lethality, survivability, and sustainability. These FSC were composed of goals for the force to meet which allowed an assessment of a unit's contribution to the success of the force in each of the warfighting characteristics.

(2) The warfighting characteristics were prioritized from the most to the least important. Weights were then assigned to represent relative importance, and the weight for each characteristic was distributed equally among the FSC for that characteristic.

(3) A combat analysis, a deployment analysis, and a sustainability analysis were conducted for each force package, and the results from these analyses were used in SCRAP to determine which units to delete. SCRAP calculated the deviation of the force's performance from the goals. It also computes the contribution of each type unit to this deviation. FORP used input from subject matter experts to assess the units in terms of the warfighting characteristics to determine which units to add. Some swaps of units were made based on simulation results and FORP. As a rule of thumb, no more than five types of units were added or deleted in each adjustment. This kept the adjustment process manageable in making controlled, incremental improvements rather than wholesale changes.

c. *Force Sufficiency Criteria.* FSC were identified for deployability, survivability, sustainability, and lethality. Although tactical mobility was also a warfighting characteristic of interest, no viable metrics were available to measure a unit's contribution to an FSC. Therefore, tactical mobility was not considered in the adjustment process. The FSC goals are shown in Table 2-1.

(1) The deployability FSC were measured in terms of planeloads to deploy as well as to support the force. MTMC TEA computed the number of planeloads required for each unit in the force.

Table 2-1. Force Sufficiency Criteria Goals.

	Lightweight Force Package	Middleweight Force Package
Lethality	Destroy 30% AT, tanks, AFV	Destroy 50% AT, tanks, AFV
	Destroy 50% C3I systems	Destroy 50% C3I systems
	Destroy 50% TBM launchers	Destroy 50% TBM launchers
	Destroy 70% TBM missiles	Destroy 80% TBM missiles
	Destroy 50% helos	Destroy 60% helos
	Destroy 50% arty and mortars	Destroy 50% arty and mortars
	Destroy 50% mounted ADA systems	Destroy 50% mounted ADA systems
	Destroy 50% MANPAD systems	Destroy 50% MANPAD systems
	Destroy 80% recon	Destroy 80% recon
	Destroy 50% fixed wing	Destroy 50% fixed wing
Survivability	Retain at least 70% combat power (systems)	Retain at least 70% combat power (systems)
Deployment	No more than 900 C141 planeloads	No more than 1500 C141 planeloads
	No more than 40% planeloads for killer unit support	No more than 40% planeloads for killer unit support
Sustainability	Supplies required do not exceed 35% of lift capabilities	Supplies required do not exceed 50% of lift capabilities

(2) Survivability was measured by the percentage of combat systems remaining in the unit at the end of a battle.

(3) A unit in either force was considered sustainable if the volume of its required supplies did not exceed a percentage of the average daily lift capabilities assigned to the Army. A unit's required supplies were determined by the use of SURE.

(4) The lethality of a unit was measured by the percentage of specific types of enemy systems the unit destroyed. A unit's lethality was determined from combat simulation runs.

d. *Prioritizing warfighting characteristics.*

(1) The weight for each warfighting characteristic was based on the importance of that characteristic with respect to the other characteristics. This relative importance was determined by the study proponents from EELS BL and the members of the study team. To establish the weight per FSC the weight for each characteristic was divided by the number of FSC associated with that characteristic. The weights for each of the warfighting characteristics and the number of FSC associated with each characteristic are shown in Figure 2-2.

Warfighting characteristics	Weight	No. of force sufficiency criteria
Deployability	0.35	2
Survivability	0.30	1
Lethality	0.25	10
Sustainability	0.10	1

Figure 2-2. Warfighting Characteristics

e. *Deleting units.*

(1) The decision on which units to delete was based on the performance of units in combat, deployment, and sustainment simulations. SCRAP was applied to each unit to determine its contribution in attaining the goal of each FSC.

(2) As a rule of thumb, no more than three types of units were deleted for each adjustment.

f. *Adding units.*

(1) The decision on which units to add to the force was based on the assessment of subject matter experts (SMEs) on the relative contribution of a unit to each FSC needing improvement. FORP was used to determine which units to add to the force to improve its achievement of the goals associated with the FSC.

(2) If a force does not meet the goal of a particular FSC, the FSC is rated red. An FSC is prioritized based on the relative importance of the characteristic with which it is associated. The unit addition process was started by searching for units that would result in a significant improvement (significance level 1) in all FSC with a red rating. If there were no such units, the significance level for one or more of the low priority FSC was downgraded by one. If no units were found after all the levels for low priority FSC were changed by one level, the same change was made for each of the high priority FSC. This procedure continued until all but the highest priority FSC had a significance level of 4 (no effect).

(3) As a rule of thumb, no more than three unit types were added.

2-4. Early Entry Force Tailoring Tool. At the present time EFFORT incorporates the warfighting characteristics of lethality, survivability, deployability, and sustainability. The modules for lethality and survivability include data on the combat systems used in this study, and the survivability module also includes data on soldiers. Deployability considers the availability of C141s and C5s as well as PREPO and airfield and port capacity. Fuel and ammunition data are included in the sustainability module based on the intensity of combat and type of combat operation. Still in the plans for this separate deliverable is a module on tactical mobility and an intent to make EFFORT user-friendly.

EARLY ENTRY FORCE ANALYSIS
CHAPTER 3
FORCE ADJUSTMENTS

3-1. Introduction. This chapter presents information on the adjustments made to arrive at the Army Lightweight Force objective package and the Army Middleweight Force objective package. The adjustments were made in an attempt to find a force package which minimized deployability and sustainability, and maximized lethality and survivability. Each adjustment was made from the previous force package. During the adjustment process, systems in the POM and specific non-POM systems of interest were available to be added to the force. These included NLOS, LOSAT, Comanche, ATACMS Blk II, Apache Longbow, Paladin, M1A2, M2A3, M3A3, Corps SAM, HIMARS, Avenger, M198, M119, and Lightweight 155mm.

3-2. The Army Lightweight Force. The Army Lightweight Force went through three adjustments. In each adjustment the Air Force, Navy, and Marine force structures remained the same.

a. *Joint Task Force (JTF) Eursouth.* The Land Component Command (LCC) of the Joint Task Force (JTF) Eursouth consisted of an Army Light Infantry Division, a Marine Expeditionary Force-Forward (MEF-F), and a Marine Expeditionary Unit (MEU). Only the Army units were changed in the adjustments.

b. *Army Lightweight Basecase.*

(1) The Army Lightweight Basecase package was based on a Light Infantry Division with current systems and included three Light Infantry Brigades, an OH58D Recon Battalion, and an

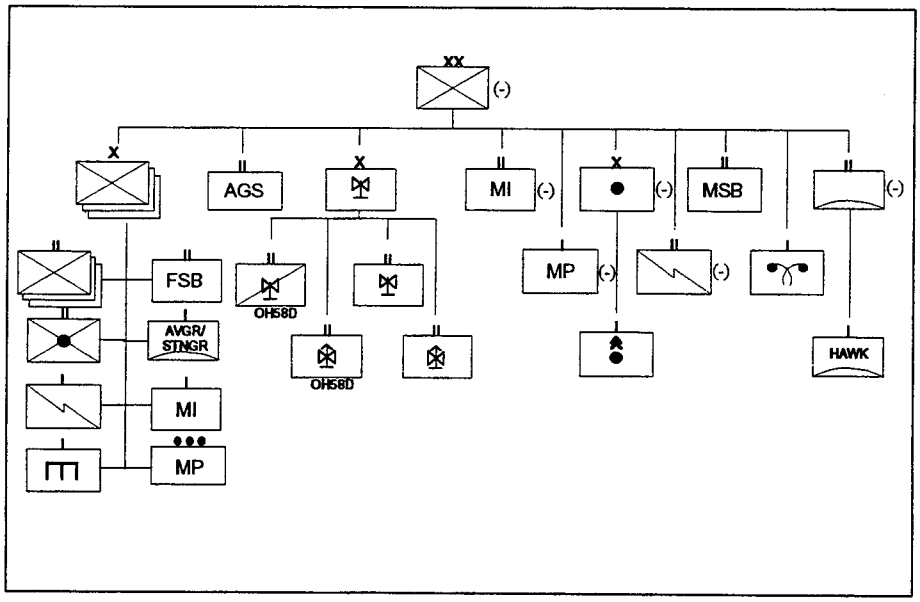

Figure 3-1 Army Lightweight Basecase

OH58D Attack Battalion. Deep fires were provided by an MLRS Battery and an AH64D Battalion. A Hawk Battery and an Avenger Battery supplied ADA support. Although not a current system, an AGS Battalion was also included in the force package at the suggestion of EELS BL. The Army Lightweight Force Basecase structure is shown in Figure 3-1.

(2) The results of the first simulation runs showed the Army Lightweight Force basecase package was weak in the characteristics of lethality and deployability, so an attempt was made to improve the force in those characteristics. The performance of this force is shown in Figure 3-2. The priority for improvement runs from left to right in the figure.

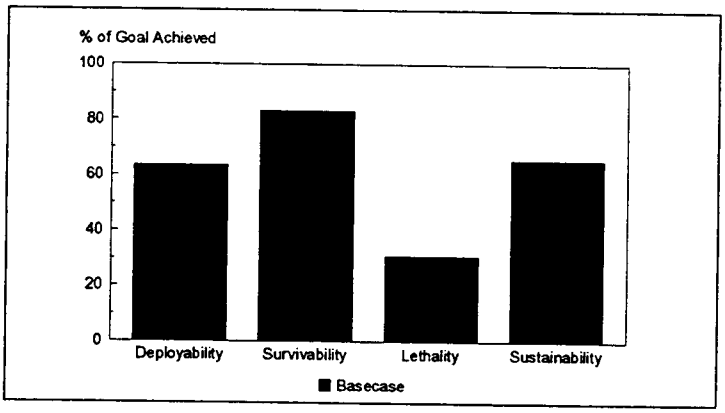

Figure 3-2. Army Lightweight Basecase Performance

(3) An analysis was made in SCRAP to determine the overall performance of each of the combat arms units. These performances were separated into three categories: units which gave a positive contribution, a neutral contribution, and a negative contribution to the overall performance of the force package. Negative contributions were further subdivided into major and minor negative contributions. Units which provided a major negative contribution became

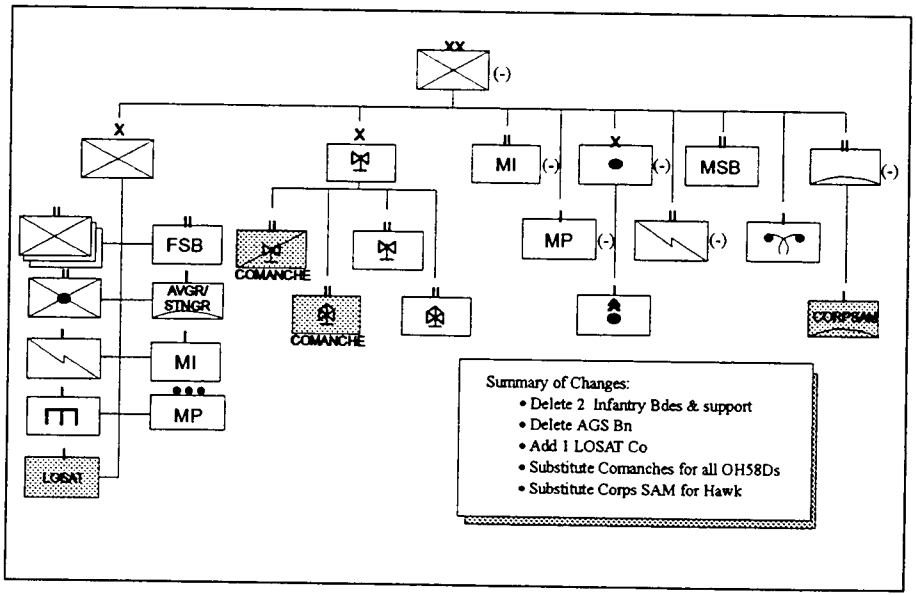

Figure 3-3. Army Lightweight Adjustment #1

candidates for deletion. For the basecase the analysis showed Light Infantry Companies, OH58D(A) Companies, and AGS Companies scored poorly and were, therefore, potential units to delete. Support units for the Light Infantry would also be deleted. In the case of all the above named types of units, lethality was the main reason for each unit's poor performance. Lethality and deployability were the characteristics in which the force needed improvement.

(4) The expert system FORP proposed the addition of LOSAT and Comanche to slightly improve deployability with no effect on lethality, survivability, or sustainability.

c. *Adjustment # 1.*

(1) In Adjustment # 1 two Infantry Brigades and their support units (M119 Batteries, Antitank Companies, and HHC), and an AGS Battalion were eliminated from the basecase force package. Based on military judgment one LOSAT Company was added and Comanche replaced the OH58Ds. Corps SAM was substituted for Hawk, since Hawk is leaving the inventory soon. Figure 3-3 shows the Adjustment # 1 force package.

(2) Simulation results showed Adjustment # 1 was better in survivability and much better in deployability and sustainability. There was a significant reduction in deployment (1375 vs. 890 C141 equivalent planeloads). MLRS/ ATACMS, RAH66, and AH64LB were the most lethal systems; and helicopters and Avengers were the least survivable. The force package still needed improvement in lethality. A comparison between the performances of the basecase and adjustment # 1 is shown in Figure 3-4.

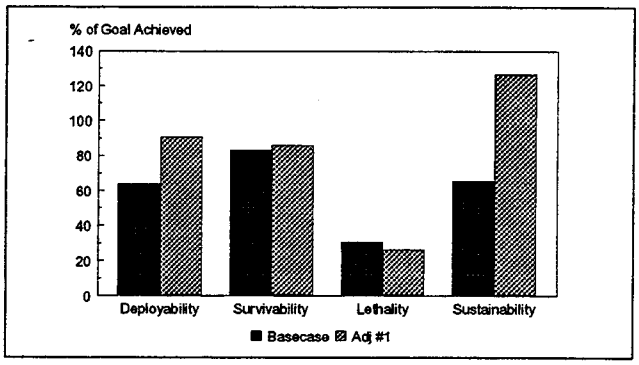

Figure 3-4. Comparison of Basecase and Adj #1

(3) An analysis in SCRAP determined the positive, neutral, and negative unit contributions to the overall performance of the force package. The AH66(A) Company, which is most deficient in lethality, had a major negative contribution. In this scenario the helicopters are attacking during the day against heavy Red ADA. Because of this they are less survivable and, therefore, less lethal.

(4) The FORP-recommended additions of Apache Longbow Companies and Lightweight 155mm Batteries were intended to moderately improve lethality and slightly improve survivability.

d. *Adjustment # 2.*

(1) The AH64LB Attack Battalion replaced the AH66 Attack Battalion and the Lightweight 155mm Battalion replaced the M119 Battalion. The Adjustment # 2 force structure is shown in Figure 3-5.

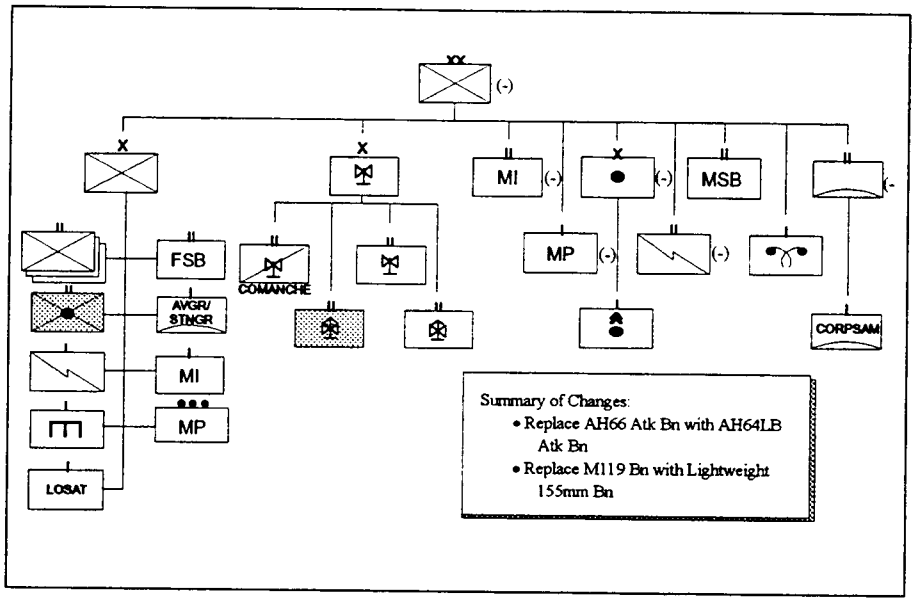

Figure 3-5. Army Lightweight Adjustment #2

(2) This force package showed some improvement in lethality and sustainability over adjustment # 1, but there were no significant differences between adjustments # 1 and # 2. The improvement in lethality was due in part to the replacement of the M119 Battalion with the Lightweight 155mm Battalion. MLRS/ATACMS and helicopters were again the most lethal. Survivability and deployability were better than the basecase, but not as good as adjustment # 1. LOSAT and helicopters were the least survivable. Figure 3-6 shows the comparison of performance among the basecase and adjustments # 1 and # 2.

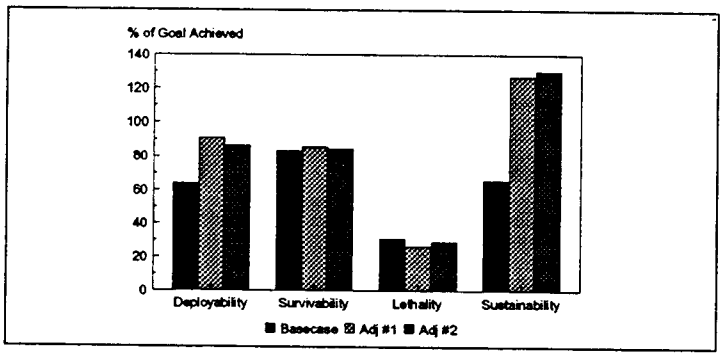

Figure 3-6. Comparison of Basecase and Adjs. 1 & 2

(3) The AH64LB Battalion was determined by SCRAP to have provided a major negative contribution to the overall performance of the force package. The primary deficiency for this unit was lethality with survivability a close second. The lethality and survivability of the helicopters were deficient because of the day attacks against Red ADA. The Light Infantry unit was on the borderline between major and minor negative contributions, but military judgment determined this unit was needed to hold ground.

(4) The expert system FORP analysis determined an NLOS Company would offer moderate improvement in lethality and slight improvement in deployability.

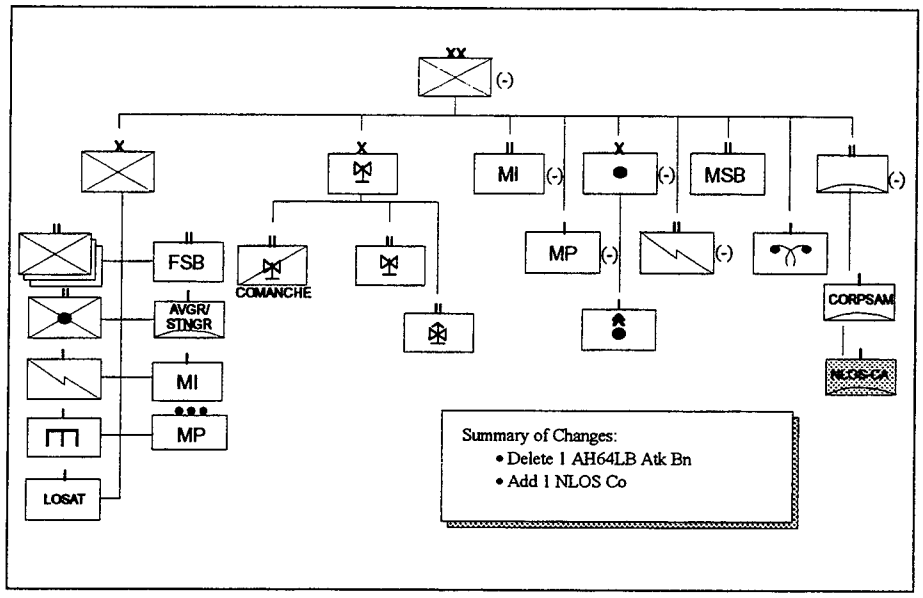

Figure 3-7. Army Lightweight Adjustment #3

e. *Adjustment # 3.*

(1) An AH64LB Attack Battalion was deleted and an NLOS Company was added to produce the Army Lightweight Force Adjustment # 3 package. Figure 3-7 shows the force package.

(2) The Army Lightweight Force Adjustment #3 performed the best in lethality and sustainability and better than the basecase in survivability and deployability. Overall Adjustment #3 is the best. As before, MLRS/ATACMS and helicopters were the most lethal. The least survivable systems were LOSAT, helicopters, and Avengers. The Combat Service Support (CSS) structure was reduced with no impact on lethality and survivability. No Tactical Ballistic Missile launchers were destroyed in any of the four Army Lightweight Force structures. A comparison of the performance of the basecase and the three adjustments is shown in Figure 3-8.

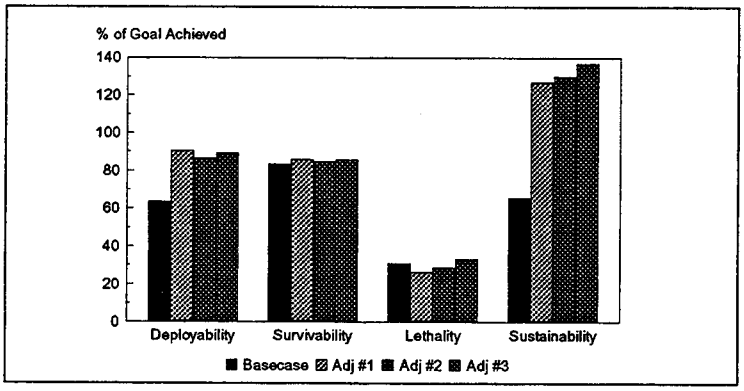

Figure 3-8. Army Lightweight Performance Summary

(3) The output from SCRAP indicated all units were making at worst minor negative contributions to the overall performance of the force package. For this reason Army Lightweight Force Adjustment #3 required no additions or deletions and was, therefore, the desired Army

Lightweight objective force package for the EUCOM 11 Scenario. Table 3-1 shows a summary of the number and types of units in all of the Army lightweight force packages.

Table 3-1. Summary of Units in the Army Lightweight Force Packages

	Basecase	Adj # 1	Adj # 2	Adj # 3
Light Infantry Bn HHC	9	3	3	3
Light Infantry Co	27	9	9	9
Light Infantry AT Co	9	3	3	3
LOSAT Co		1	1	1
NLOS Co				1
AGS Co	4			
M119 Btry	9	3		
155mm Lightweight Btry			3	3
MLRS Btry	1	1	1	1
Hawk Btry	1			
Corps SAM Btry		1	1	1
Avenger Btry	1	1	1	1
OH58D Atk Co	3			
OH58D Recon Co	3			
AH66 Atk Co		3		
AH66 Recon Co		3	3	3
AH64LB Atk Co	3	3	6	3

3-3. The Army Middleweight Force. Two adjustments were made to the Army Middleweight Force to arrive at a package which maximized deployability, sustainability, lethality and survivability. In each adjustment made to the Army Middleweight Force no changes were made in the Prepo Afloat units, and the Air Force, Navy, and Marine force structures remained the same.

a. *Joint Task Force (JTF) Eursouth.* For the Army Middleweight Force package, the Air Component and Navy Component Commands remained the same. The LCC was composed of the 10K Prime Force package with the Mechanized Infantry Brigade as Prepo Afloat and a Marine Battalion.

b. *Army Middleweight Force Basecase.*

(1) The Army Middleweight Basecase is the 10K Prime Force package from the 10K study. The package included a Light Infantry Brigade, a Comanche Recon Battalion, a HIMARS

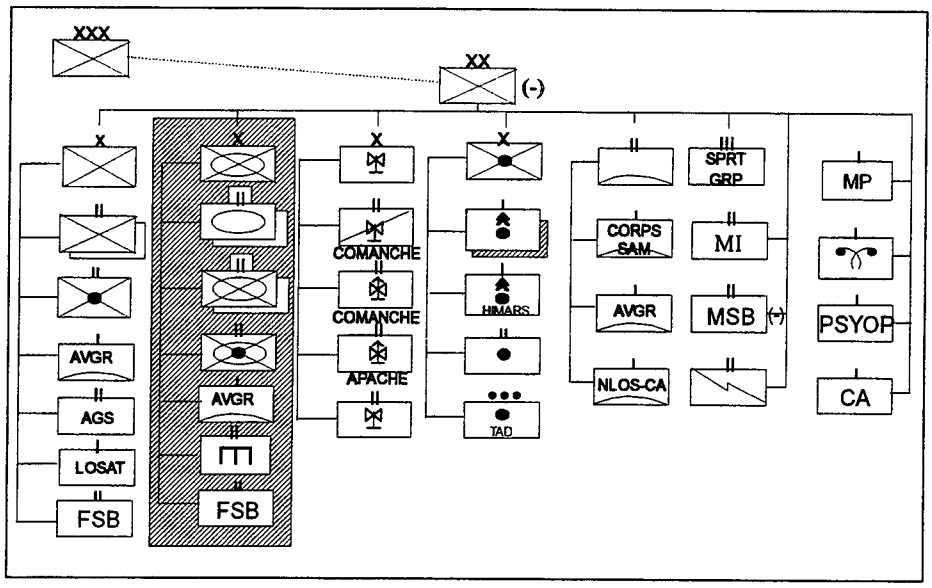

Figure 3-9. Army Middleweight Basecase

Battery, and a Corps SAM Battery. A balanced Mechanized Infantry Brigade used equipment Prepositioned Afloat. The Army Middleweight Basecase package is shown in Figure 3-9.

(2) An analysis of the initial performance of the Army Middleweight Force Basecase indicated the package had room for improvement in the characteristics of lethality and sustainability. MLRS/ATACMS, helicopters, NLOS and Avengers were the most lethal, and helicopters, NLOS, and AGS were the least survivable. The basecase performance is shown in Figure 3-10. Note this force has nearly attained its goals in the two highest priority areas. The PREPO Afloat Bde assets were not included in the calculation of the deployability performance.

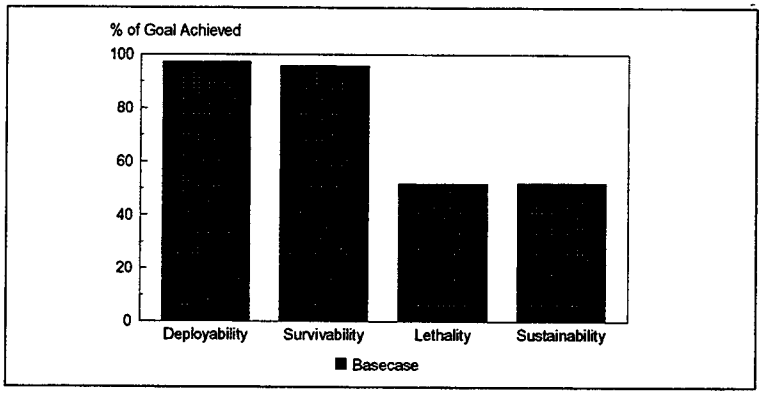

Figure 3-10. Army Middleweight Basecase Performance

(3) The units which provided a major negative contribution to the overall performance of the force package were the Light Infantry, AH64LB, RAH66, and AH66. All were most deficient in survivability. In the EUCOM 11 Scenario, the Light Infantry were susceptible to artillery. The helicopter units attacked during the day against heavy threat ADA. The AGS unit was on the borderline, and was not eliminated because the EELS BL was interested in learning more about its performance. No units were added to the force package.

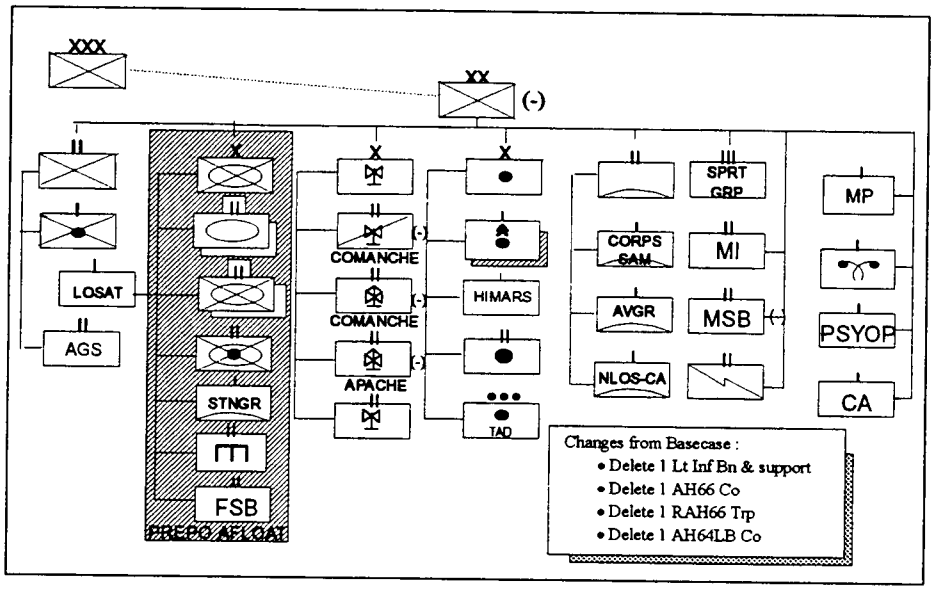

Figure 3-11. Army Middleweight Adjustment #1

c. *Adjustment # 1.*

(1) One Light Infantry Battalion and its support units, an AH66 Company, an RAH66 Troop, and an AH64 Company were deleted from the basecase package. Figure 3-11 shows the Adjustment # 1 force package.

(2) The Army Middleweight Force Adjustment #1 did slightly better in deployability and much better in sustainability than the basecase, but worse in survivability and just slightly worse in lethality. Although the helicopters were deleted because of a deficiency in survivability, the force becomes significantly less survivable without them. In addition to the helicopters, MLRS/ATACMS and Avengers were most lethal, and AGS and NLOS were least survivable. A comparison of performance between the basecase and adjustment # 1 is shown in Figure 3-12.

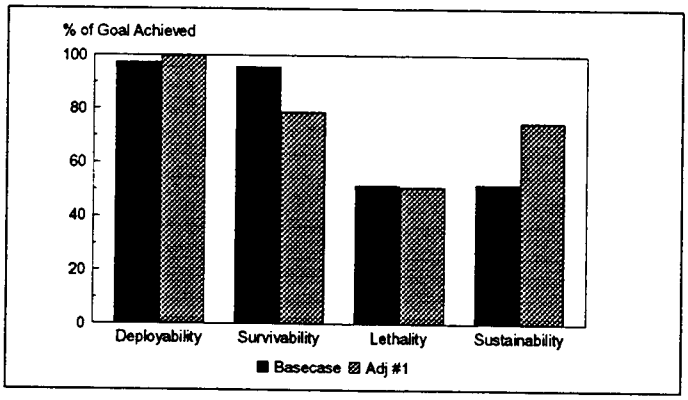

Figure 3-12. Comparison of Basecase and Adj #1

(3) AGS with its primary deficiency in survivability made a major negative contribution, and became the candidate for deletion. The AGS in this scenario was a target for Red fixed-wing which identified it as a tank. Again, no units were added to the force package.

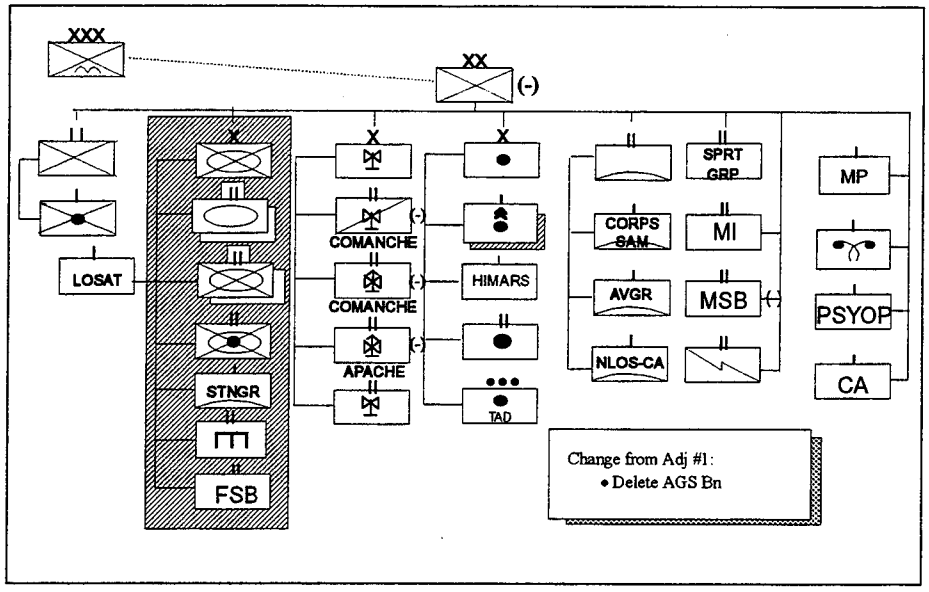

Figure 3-13. Army Middleweight Adjustment #2

c. *Adjustment # 2.*

(1) Only the AGS Battalion was eliminated from the adjustment #1 force package. Again, no units were added to the force package. The Adjustment # 2 force package is shown in Figure 3-13.

(2) An examination of performance showed no improvement was made in lethality or survivability. An improvement in deployability and sustainability would be expected since there are fewer systems in this force package. No Tactical Ballistic Missile launchers were destroyed in any of the three Army Middleweight Force packages. A comparison of force package performances is shown in Figure 3-14. Overall, no significant improvement was made from the basecase after two adjustments. NLOS, as well as MLRS/ATACMS and AH64LB, was most lethal, but also least survivable along with helicopters and Mechanized Infantry.

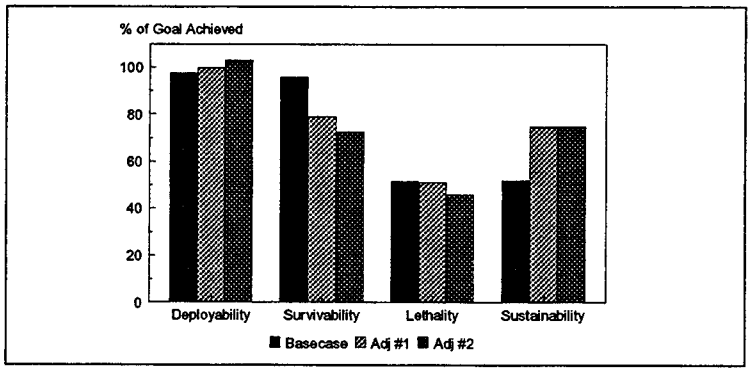

Figure 3-14. Army Middleweight Performance Summary

(3) All units provided a positive or minor negative contribution to the overall performance of the force package, but the force performance did not show improvement. The Army Middleweight Basecase Force was declared the EUCOM 11 objective force package. A summary of the number and types of units in each force package for the middleweight force adjustment process, other than those units in the PREPO Afloat, is shown in Table 3-2.

Table 3-2. Summary of Units in the Army Middleweight Force Packages

	Basecase	Adj # 1	Adj # 2
Light Infantry Bn HHC	2	1	1
Light Infantry Company	6	3	3
Light Infantry AT Company	2	1	1
LOSAT	1	1	1
NLOS	1	1	1
AGS Company	4	4	
M119 Battery	3	1	1
M198 Battery	3	3	3
MLRS Battery	1	1	1
HIMARS Battery	1	1	1
Corps SAM Battery	1	1	1
AH66 Atk Company	3	2	2
AH66 Recon Company	3	2	2
AH64LB Atk Company	3	2	2

EARLY ENTRY FORCE ANALYSIS
CHAPTER 4
ANALYTIC INSIGHTS

4-1. Introduction. This study was conducted to determine a lightweight force and a middleweight force which maximized survivability and lethality, and minimized deployability and sustainability in an early entry mission in a EUCOM 11 Scenario. The Army Lightweight Force Adjustment #3 and the 10K Prime Force from the 10K Analysis Study were determined to be the force packages meeting these requirements. During the conduct of the study, several analytic insights were extracted that answered questions of interest.

4-2. Deployability. What is the effect of lift on force closure? As the Army percentage of total daily lift increased, the number of days to deploy decreased. Although the amount of lift allocated to one Service fluctuates daily, the expected average percentage of the total daily lift for the Army over the first 30 days is 47 percent. Total lift was measured in terms of the lift available in 2001, including C17 and Civil Reserve Air Fleet (CRAF). An analysis of the expected gains in deployment with an increase in the expected percentage provided the following outcomes.

a. *Army Lightweight Force.* The FSC goal for deployability for the Army Lightweight Force was 12 days. That goal for the Army Lightweight objective force package would require 69% of the total daily lift, as shown in the graph in Figure 4-1. If the Army were to gain an additional ten percent (from 47 to 57 percent as indicated by the double-headed arrow), the Army Lightweight Force would gain three days toward its deployment goal.

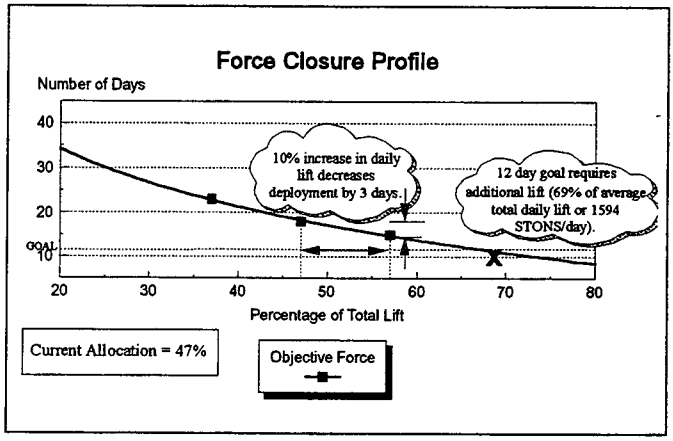

Figure 4-1. Army Lightweight Force Deployment

b. *Army Middleweight Force.* For the Army Middleweight Force the Force Sufficiency Criterion Goal for deployability was 21 days. This goal for the Army Middleweight objective force package requires 54% of the total available lift, as shown in Figure 4-2. A ten percent increase (from 47 to 57 percent as indicated by the double-headed arrow) would ensure the Army Middleweight Force would more than meet its goal.

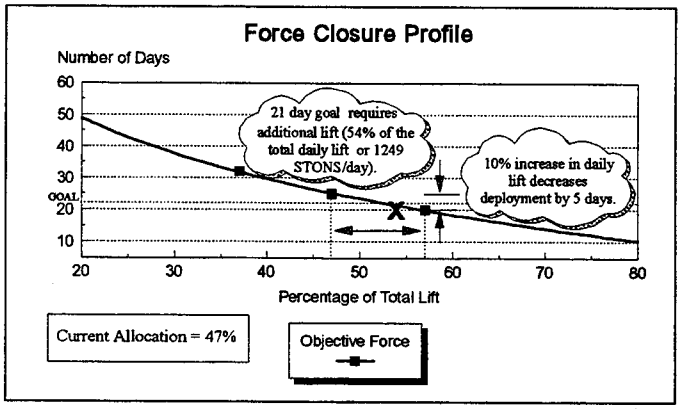

Figure 4-2. Army Middleweight Force Deployment

4-3. Lethality vs. Deployability. An examination of the trade-offs between

lethality and deployability caused two questions to be posed. Is the increased lethality provided by the Lightweight 155mm Battalion worth the increased cost in deployment? What is the best mix of MLRS Batteries and ATACMS Block II ammunition to maintain lethality without sacrificing deployability?

a. *Army Lightweight Force.* In the Army Lightweight Force two of the force packages included an M119 Battalion in direct support and the other two force packages used a Lightweight 155mm Battalion in direct support. The M119 destroyed only one Red system and required 39 C141 planeloads to deploy a battalion. The Lightweight 155mm Battalion was less deployable, requiring 91 planeloads, or 133 percent more C141 planeloads, but it accounted for over 50 Red system kills. The lethality of the M119 is hindered by its lack of range and the munitions it is able to fire. Figure 4-3 shows this information graphically.

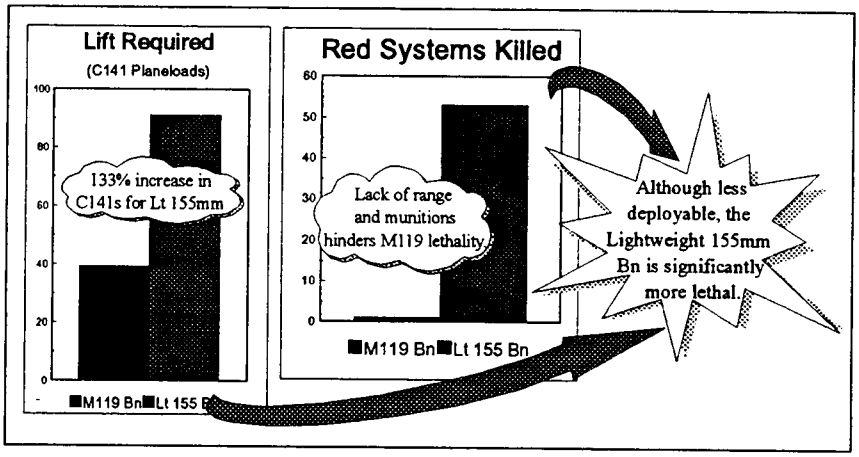

Figure 4-3. Army Lightweight Force Lethality vs. Deployability

b. *Army Middleweight Force.* With the number of ATACMS Block II held constant, force packages with one, two, and three batteries of MLRS were examined. In every case all of the Block II ammunition was expended, and the number of Red systems destroyed remained about the same. Having more launchers provides flexibility, versatility, and redundancy in deep fires. However, the cost of deploying more than one battery is too high for an early entry force. In an excursion run, one battery, with only a portion of the battery firing ATACMS Block II, ran out of ammunition before the end of the battle when artificial constraints were not placed to prevent the firing of all the missiles. The constraint is not the number of launchers but the amount of ammunition available. This information is shown in Figure 4-4.

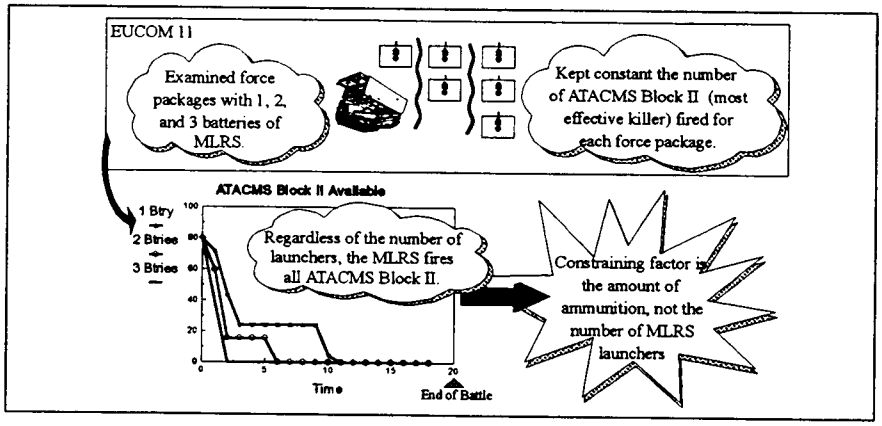

Figure 4-4. Army Middleweight Force Lethality vs. Deployability

4-4. Lethality/Survivability vs. Sustainability. Can the force size (personnel) be reduced while maintaining lethality, survivability, and CSS proportion levels? As adjustments were made

to the Army Lightweight Force, lethality and survivability improved somewhat, and sustainability was greatly improved. Each adjustment resulted in a decrease in the number of soldiers, but the proportion of Combat and Combat Support soldiers to CSS soldiers remained almost constant. The contributing factors were a successful deep fight, fewer vulnerable Blue targets, a large cut in infantry and AGS and the support they required, and less aviation assets. Force structure was significantly reduced while lethality/survivability and CSS proportion levels were maintained. Figure 4-5 depicts this information.

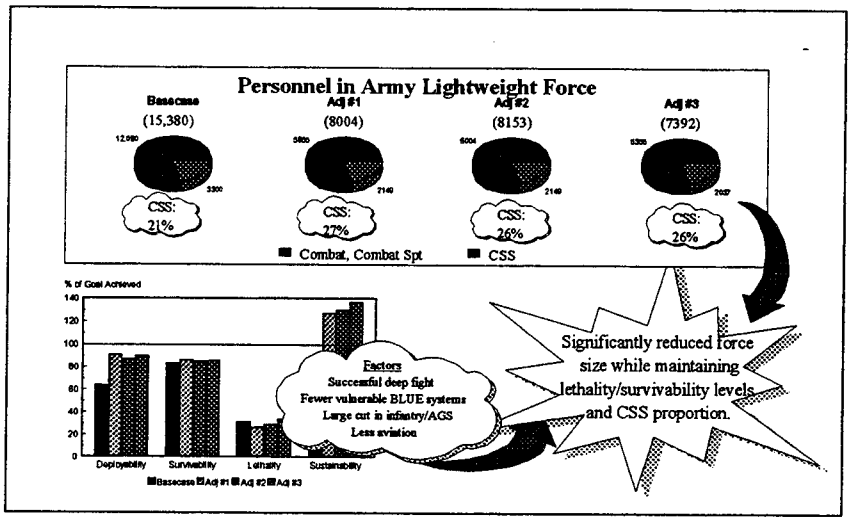

Figure 4-5. Lethality/Survivability vs. Sustainability

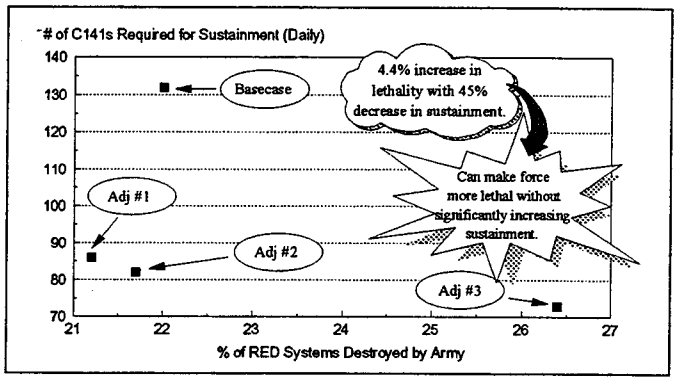

Figure 4-6. Lethality vs. Sustainability

4-5. Lethality vs. Sustainability. Is it possible to improve lethality without increasing sustainability? Figure 4-6 shows as the Army Lightweight Force was adjusted, its lethality improved, but the number of C141 planeloads required for daily sustainment of the package decreased. Sustainment decreased from the basecase to adjustment #1 due to the addition of Comanche and LOSAT to the force. The addition of advanced technology systems such as NLOS caused the improvement in lethality from adjustment #2 to adjustment #3. The adjustments to the Lightweight Force demonstrate an improvement in lethality does not necessarily imply an increase in sustainment.

4-6. Closure Lethality. What can be done to improve force performance in an opposed entry mission?

a. In the initial study plan, an analysis of mission success under opposed entry conditions was to be conducted with 75% force closure. Mission success was based on the force's ability to hold the lodgment, primarily the airfield. However, an examination of units arriving in the order and quantities designated by the TPFDL showed all the force killers would arrive with 75% closure. From this it was determined the Army Lightweight Force objective force package (adjustment #3) would be successful in accomplishing its mission. As a result of this, the battle was started with 50% closure. With the original TPFDL, the force was not successful in holding the lodgment.

b. In the second and third runs, deployment was tailored to ensure a mix of systems. This tailoring involved keeping the number of STONs (50% of the total STONs) constant while changing the kinds and quantities of units. Company-sized units were modularized with appropriate support to allow deployment of only a portion of the unit. This modularization provided a cross section of capabilities in each Battlefield Operating System early in the deployment. Although the Loss Exchange Ratio (LER) increased significantly over the first run, the second run still failed to hold the lodgment. Only the third run had enough lethality and survivability to successfully accomplish its mission. Figure 4-7 shows the LER for each force package and the changes made in the TPFDL for the three runs.

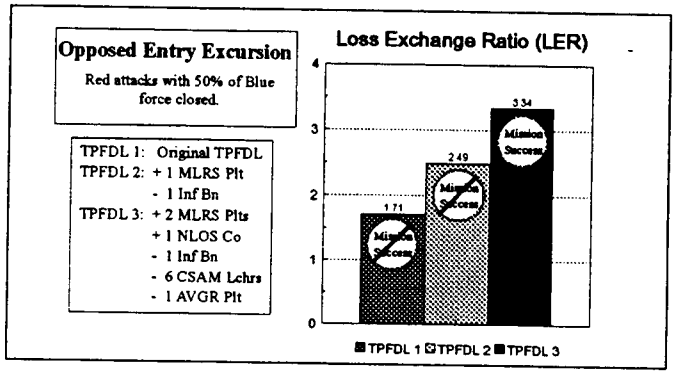

Figure 4-7. Army Lightweight Force Closure

EARLY ENTRY FORCE ANALYSIS
CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5-1. Force packages.

a. *The Army Lightweight Force.* The Army Lightweight Force Adjustment # 3 was better than the basecase in all four warfighting characteristics. Overall, it was the best of all the lightweight force packages. In the lightweight analysis, Adjustment # 3 maximized lethality and survivability and minimized deployability and sustainability requirements.

b. *The Army Middleweight Force.* Although two adjustments were made in the Army Middleweight Force Analysis, neither adjustment performed as well across the warfighting characteristics as the basecase force, which was the 10K Prime Force from the 10K Analysis Study. In the initial analysis of its performance, the Army Middleweight Force Basecase achieved nearly 100 percent of the goal for the two top priority warfighting characteristics of deployability and survivability.

5-2. Deployability. The expected percentage of total daily lift allocated to the Army will not be enough to meet the deployability goals. The Army Lightweight Force requires in excess of two-thirds of the total daily lift, while the Army Middleweight Force requires only slightly more than the Army's expected share. Just a ten percent increase in daily lift will result in three to five days less deployment time.

5-3. Lethality.

a. Though MLRS and Lightweight 155mm improve lethality, both are more costly in deployability. MLRS precision strikes are limited by the amount of ammunition, not the number of launchers.

b. Advanced technology systems increase lethality while decreasing sustainment.

c. The Army Lightweight Force was reduced in half without major changes in lethality, survivability, or CSS.

d. Opposed entry mission success can be assured with careful tailoring of units and unit sequencing.

5-4. Methodology.

a. In the past the methodology to determine a new force package involved subject matter experts proposing usually two to three alternatives. These packages, with the current force package as a base case, were fought in a combat simulation against a specific type threat, and the results were analyzed to establish which force package was "the best."

b. The methodology for this study started with an analysis of a base case package which identified the package deficiencies measured against predetermined goals. Processes, which determine the units to delete to improve the force, and the units to add to improve force performance, are used to modify the previous force package. This package is examined for deficiencies, and the process is continued until no significant improvement can be obtained.

c. The Army analytic community must develop new methods, which investigate the entire range of alternatives, to resolve what is best for the Army. The methodology developed for this study could be applied in future studies.

5-5. Prairie Warrior '95. Lessons learned from the Army Lightweight Force Analysis and the Army Middleweight Force Analysis; the Threat, terrain, and weather from the NEA scenario; and the goals and weights from decision makers could be used in EFFORT to determine an early entry force package for Prairie Warrior '95. Although EFFORT requires some additional work to make it a user-friendly tool for decision makers in designing any early entry force, it is far enough along in its development to complete this task.

5-6. Recommendations.

a. Approve adjustment #3 as the objective Army Lightweight Force for EUCOM 11.

b. Retain the basecase (10K Prime from the 10K Force Analysis Study) as the objective Army Middleweight Force for EUCOM 11.

c. Continue work on EFFORT with the goal of a deliverable product to planners.

d. Use the analytical force packaging methodology including EFFORT to determine the early entry force for GHQ 95 and Prairie Warrior 95.

APPENDIX A

EARLY ENTRY FORCE ANALYSIS STUDY PLAN

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United States Army
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EARLY ENTRY FORCE ANALYSIS

STUDY PLAN

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STUDY PLAN
FOR
EARLY ENTRY FORCE ANALYSIS

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1. Purpose. This plan identifies the study objectives for the Early Entry Force Analysis study, a study effort addressing two sub-issues from the Louisiana Maneuvers (LAM) 94 issue: More Lethal, Survivable, Deployable Forces. This early entry study will be conducted by the Training and Doctrine Command's (TRADOC) Analysis Center (TRAC) in support of the Early Entry Lethality and Survivability (EELS) Battle Laboratory (BL).

2. References.

a. Field Manual 100-5. Operations. June 1993.

b. Early Entry Lethality and Survivability Battle Dynamic Operation Concept, Draft 11.5. 9 December 1992.

c. 10K Force Analysis Final Report. June 1993.

3. Terms of reference.

a. Problem statement. **Existing early entry forces lack the lethality, survivability, deployability, sustainability, and tactical mobility to meet future force projection needs.**

b. Background of problem. To comply with the National Military Strategy (NMS), the Army must possess the capability to rapidly deploy and insert "first to fight" forces. Operation DESERT SHIELD exposed the vulnerabilities of our "first to arrive", lightly equipped contingency forces to a threat equipped with heavy armor. Our heavy forces, while survivable and lethal, are difficult to transport in a time-sensitive environment. The future Army must have the capability to conduct early entry operations with tailored armored, light, and special operations forces that have the warfighting characteristics of being more deployable, lethal, tactically mobile, survivable, and sustainable. These forces are defined below.

(1) A lightweight force is a force that can be fully deployed by C+12, primarily by air, and has enough lethality to secure and retain a lodgment for up to 11 days from the time of initial entry (C+4). This force normally receives all resupply by airlift, has essentially limited tactical mobility, and lacks significant armor protection.

(2) A middleweight force is a force that can be fully deployed by C+21, primarily by sealift, and not only retains a lodgment, but also assists in decisive land warfare after receipt of follow-on Blue forces. The middleweight force sustainment tail requires a seaport with the capacity found in a typical third world nation to effect resupply. The middleweight force is 100 percent mobile with task-organized assets.

c. Impact of problem. Conducting force projection requires the Army to introduce credible, lethal forces early. Accomplishing this task necessitates tradeoffs in selection of forces, means of deployment, and force sustainment. Existing Army early entry capability focuses on deterrence through deployment, with lethality, survivability, and sustainability to be built up over time. With the current unrest in the world, continuing regional disputes, and U.S. responsibility to act in defense of national interests, the opportunity to exercise future early entry operations will probably increase. In such future operations, it is unlikely that potential enemies will grant U.S. forces time to build combat power. Therefore, to meet power projection needs, it is essential to examine if, and how, light and middleweight forces performing an early entry mission can be improved. The EELS BL designed a light, early entry force consisting of a quick-response, brigade-sized force (referred to as a 2K force) and a follow-on middleweight force somewhat smaller than a division (referred to as a 10K force) as part of the 2K and 10K Force Analysis studies. TRAC conducted these studies by analyzing the lethality, survivability, and sustainability of various 2K and 10K force designs in scenarios simulating a variety of threat forces and environments. A deployability analysis was conducted by the Military Traffic Management Command Transportation Engineering Agency (MTMCTEA) and integrated into the study. The results from these studies provide the direction for this LAM 94 study effort.

d. Objectives.

(1) Determine how to make light forces more lethal, survivable, tactically mobile, and sustainable.

(2) Determine potential contribution to the battlefield by middleweight units, light enough for rapid force projection, yet tactically mobile and lethal.

e. Scope.

(1) A new study scenario is being developed for this analysis. Time constraints in developing this scenario permit examination only in a single, low-resolution scenario, European Command (EUCOM) 11, a scenario containing an early entry mission. This scenario will be study-certified by TRAC-Scenario and Wargaming Center (SWC).

(2) Results from the 10K Force Analysis study will be used to assist in the force sufficiency analysis, and during the force tailoring analysis.

(3) The Blue force structures are primarily 2001 but include some non-POM equipment.

(4) Threat force year will be 2006.

(5) The study will address conventional and unconventional units and weapons. Unconventional weapons will be limited to chemical munitions.

(6) The study will provide estimates of personnel casualties. The emphasis on decisive victory with minimum casualties, in the NMS, demands this important criterion be made visible.

f. Assumptions.

(1) System definitions will be available in sufficient detail for evaluation purposes.

(2) Threat doctrine, equipment, and force structure projections through 2006 are accurate.

(3) Blue doctrine and equipment projections are accurate.

(4) Host Nation doctrine, equipment, and force structure projections through 2001 are accurate.

(5) Approved surrogate data will be available for identified data deficiencies.

(6) Supply requirements based on Army planning factors are representative of actual supply consumption.

(7) A lightweight or middleweight force is the only force available for this scenario.

g. Study issues.

(1) Study issue 1: **What are the most lethal lightweight and middleweight forces?** [TRAC-Study and Analysis Center (SAC)]

(2) Study issue 2: **What are the most survivable lightweight and middleweight forces?** [TRAC-SAC]

(3) Study issue 3: **What are the lift requirements and closure profiles for lightweight and middleweight forces?** [MTMCTEA]

(4) Study issue 4: **What are the sustainment requirements and impacts on lightweight and middleweight forces?** [TRAC-Fort Lee (LEE)]

(5) Study issue 5: **What are the tactical mobility characteristics of lightweight and middleweight forces performing an early entry mission?** [TRAC-SAC]

(6) Study issue 6: **What is the impact on lightweight and middleweight forces when combat begins while force closure is still being accomplished?** [TRAC-SAC]

(7) Study issue 7: **What is the composition of the middleweight force performing an early entry mission?** [TRAC-SAC]

(8) Study issue 8: **What are the tradeoffs among force lethality, survivability, and deployability?** [TRAC-SAC]

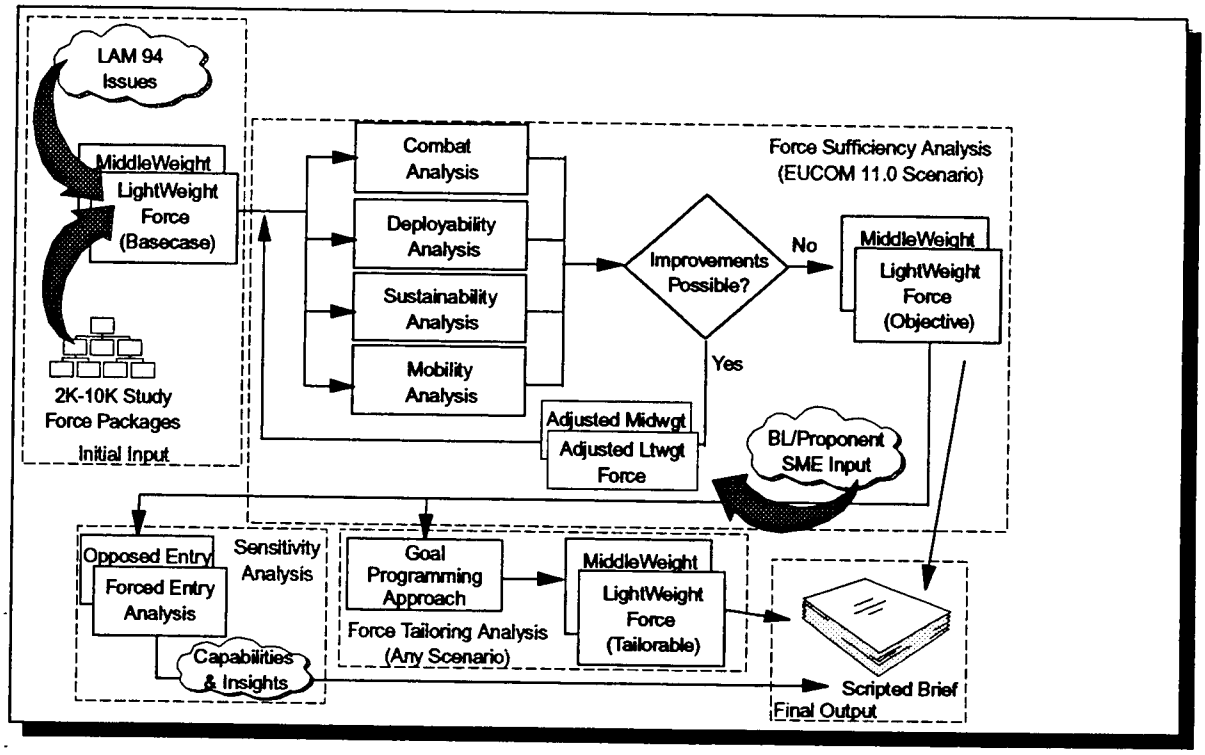

Figure 1. Methodology

h. Methodology. The methodology consists of five major parts: an initial input, a force sufficiency analysis, a sensitivity analysis, a force tailoring analysis, and the final output. Figure 1 depicts the methodology.

i. Method of analysis.

(1) Initial input. The initial input will use the results of the 2K and 10K analyses and the sub-issues and guidance from the LAM 94: More Lethal, Survivable, Deployable Force Issue to develop a basecase force package for the lightweight and middleweight forces. The lightweight force is composed of an airborne division with an MLRS battery and AGS battalion, and a Marine Expeditionary Force-Forward. The middleweight force consists of the 10K prime force, developed by the EELS BL, and a balanced heavy brigade (Hvy Bde Afloat). These force packages were selected because the airborne division and Marine Expeditionary Force-Forward are the lightweight forces assigned to respond to this theater's early entry mission and the middleweight force package represents the forces that are expected to be more robust than the lightweight force in performing the same early entry mission. Specifically, these force packages feed the iterative process outlined in the force sufficiency analysis.

(2) Force sufficiency analysis. The force sufficiency analysis uses the basecase force packages to conduct combat, deployability, sustainability, and mobility sub-analyses to determine lightweight and middleweight objective packages for an unopposed entry. Accomplishing this task requires an iterative effort where the lightweight and middleweight forces will be adjusted until no additional improvement in the force can be obtained. Success in performing this mission

is based on attainment of the force sufficiency criteria outlined in table 1, and the comparison of force performance against the force sufficiency criteria represents whether additional improvement can be obtained. Paragraph 3i(2)(a), below, explains the force sufficiency analysis in detail while paragraphs 3i(2)(b) through (e), below, outline the sub-analyses required. All simulations used in the sub-analyses outlined in these paragraphs use the EUCOM 11 scenario, each force package initially performing an unopposed mission, and include all lightweight and middleweight force packages of interest.

(a) The force sufficiency analysis and the sensitivity analysis, outlined in paragraph 3i(3), will be conducted using a rating system of green, amber, and red. These ratings measure the force package's ability to meet, marginally meet, or not meet the sufficiency criteria. These ratings are measurable standards against which model results will be compared and then used for comparison against the next alternative package. The numerical weights (approved by the EELS BL) associated with each of these criteria are combined with the numerical difference obtained from the sufficiency criteria to determine the force package's overall mission performance rating. These weights were obtained from a mission analysis of early entry force requirements, past experience in U.S. force projection operations, and results obtained from the 2K and 10K force analysis studies. The color-coded rating system will serve two purposes: it will readily identify to the study team where to focus efforts to improve force performance and it will simplify presentation of study results. Tables 1 and 2 indicate the standards for classification as green, amber, or red for lightweight and middleweight forces.

(b) The combat analysis will be conducted by TRAC-SAC using the simulation model Vector-In-Commander (VIC) to obtain lethality and survivability performance data for comparison against the force sufficiency criteria's lethality and survivability goals (see tables 1 and 2, essential elements of analysis (EEA) 1.1 to 1.6 and 2.1 to 2.5). The lethality sufficiency criteria reflect the critical Red systems that must be eliminated for the Blue force to be successful, while the survivability criteria represents the Blue capabilities that must be retained for the force to participate in follow-on missions and not exceed acceptable loss rates for both systems and personnel. This sub-analysis will provide force lethality and survivability data for comparison against the force sufficiency criteria.

(c) The deployment analysis will be conducted by MTMCTEA utilizing the appropriate models to obtain deployment and closure performance data for comparison against the force sufficiency criteria's deployment and closure goals (see table 1, EEAs 3.1 to 3.7 and 6.1 to 6.3). The deployment sufficiency criteria reflects a limit on Blue force packages performing an early entry mission and still remain a credible option for employment. The closure criteria represents the early entry force's warfighting capability over time as the force arrives in theater, and the force's ability to accomplish the forced entry mission. This sub-analysis will provide force deployment and closure data for comparison against the force sufficiency criteria.

(d) The sustainment analysis will be conducted by TRAC-LEE utilizing the SURE and FASTALS models to obtain sustainment performance data for comparison against the force sufficiency criteria's sustainment goals (see table 1, EEAs 4.1 to 4.4). The sustainment sufficiency criteria addresses how to support the early entry force without geometrically increasing the

Table 1. Lightweight force sufficiency criteria

Issue	EEA	Rating		
		Green	Amber	Red
Lethality	1.1A	Destroy at least 70% of enemy systems	Destroy at least 60% of enemy systems	Destroy less than 60% of enemy systems
	1.2A	Destroy at least 80% of enemy TBMs	Destroy at least 70% of enemy TBMs	Destroy less than 70% of enemy TBMs
	1.3A	Destroy at least 80% of enemy helos	Destroy at least 70% of enemy helos	Destroy less than 70% of enemy helos
	1.4A	Destroy at least 80% of enemy arty	Destroy at least 70% of enemy arty	Destroy less than 70% of enemy arty
	1.5A	Destroy at least 80% of enemy ADA	Destroy at least 70% of enemy ADA	Destroy less than 70% of enemy ADA
	1.6A	Destroy at least 90% of enemy recon	Destroy at least 80% of enemy recon	Destroy less than 80% of enemy recon
Survivability	2.1A	Retain at least 70% combat power	Retain at least 50% combat power	Retain less than 50% combat power
	2.2A	Retain at least 70% of helos	Retain at least 60% of helos	Retain less than 60% of helos
	2.3A	Retain at least 70% of CSS structure	Retain at least 60% of CSS structure	Retain less than 60% of CSS structure
	2.4A	Suffer no more than 20% losses from TBM	Suffer no more than 30% losses from TBM	Suffer more than 30% losses from TBM
	2.5A	Keep airfield open at least 75% of time	Keep airfield open at least 65% of time	Keep airfield open less than 65% of time
Deployment	3.10	No more than 750 sorties to deploy	No more than 900 sorties to deploy	More than 900 sorties to deploy
	3.30	No more than 12 days to deploy	No more than 14 days to deploy	More than 14 days to deploy
	3.5A	No more than 4 days to deploy	No more than 5 days to deploy	More than 5 days to deploy
	3.6A	No more than 1 FSS to deploy	No more than 2 FSS to deploy	More than 2 FSS to deploy
	3.7A	No more than 1 Prepo ships to deploy	No more than 2 Prepo ships to deploy	More than 2 Prepo ships to deploy
Sustainment	4.1A	CSS no > 25% of total force	CSS no > 33% of total force	CSS more than 33% of total force
	4.2A	Supplies required do not exceed lift capabilities	Supplies required exceed lift capabilities by at most 10%	Supplies required exceed lift capabilities by more than 10%
	4.3A	Use no more than 50% of port capacity	Use no more than 60% of port capacity	Use more than 60% of port capacity
	4.4A	Use no more than 50% of airfield capacity	Use no more than 60% of airfield capacity	Use more than 60% of airfield capacity
Mobility	5.1A	No more than 3 hours to move supplies	No more than 4 hours to move supplies	More than 4 hours to move supplies
	5.2A	No more than 1 hour to move personnel & equipment	No more than 2 hours to move personnel & equipment	More than 2 hours to move personnel & equipment
	5.3A	Expand lodgment to 40 KM in no more than 4 hours	Expand lodgment to 40 KM in no more than 5 hours	Expand lodgment to 40 KM in more than 5 hours
Closure	6.1A	Retain airfield at least 12 days with 75% force closed	Retain airfield at least 10 days with 75% force closed	Retain airfield less than 10 days with 75% force closed
	6.2A	Retain airfield at least 12 days with 50% force closed	Retain airfield at least 10 days with 50% force closed	Retain airfield less than 10 days with 50% force closed
	6.3A	Seize airfield in no more than 6 hours	Seize airfield in no more than 12 hours	Seize airfield in more than 12 hours

Table 2. Middleweight force sufficiency criteria

Issue	EEA	Rating		
		Green	Amber	Red
Lethality	1.1B	Destroy at least 70% of enemy systems	Destroy at least 60% of enemy systems	Destroy less than 60% of enemy systems
	1.2B	Destroy at least 90% of enemy TBMs	Destroy at least 80% of enemy TBMs	Destroy less than 80% of enemy TBMs
	1.3B	Destroy at least 80% of enemy helos	Destroy at least 70% of enemy helos	Destroy less than 70% of enemy helos
	1.4B	Destroy at least 90% of enemy arty	Destroy at least 80% of enemy arty	Destroy less than 80% of enemy arty
	1.5B	Destroy at least 90% of enemy ADA	Destroy at least 80% of enemy ADA	Destroy less than 80% of enemy ADA
	1.6B	Destroy at least 90% of enemy recon	Destroy at least 80% of enemy recon	Destroy less than 80% of enemy recon
Survivability	2.1B	Retain at least 75% combat power	Retain at least 60% combat power	Retain less than 60% combat power
	2.2B	Retain at least 80% of helos	Retain at least 70% of helos	Retain less than 70% of helos
	2.3B	Retain at least 90% of CSS structure	Retain at least 80% of CSS structure	Retain less than 80% of CSS structure
	2.4B	Suffer no more than 10% losses from TBM	Suffer no more than 20% losses from TBM	Suffer more than 20% losses from TBM
	2.5B	Keep airfield open at least 75% of time	Keep airfield open at least 65% of time	Keep airfield open less than 65% of time
Deployment	3.20	No more than 1500 sorties	No more than 1600 sorties	More than 1600 sorties
	3.40	No more than 21 days	No more than 25 days	More than 25 days
	3.5B	No more than 4 days	No more than 5 days	More than 5 days
	3.6B	No more than 3 FSS	No more than 4 FSS	More than 4 FSS
	3.7B	No more than 3 Prepo ships	No more than 4 Prepo ships	More than 4 Prepo ships
Sustainment	4.1B	No > 25% of total force	No > 33% of total force	More than 33% of total force
	4.2B	Supplies required do not exceed lift capabilities	Supplies required exceed lift capabilities by at most 10%	Supplies required exceed lift capabilities by more than 10%
	4.3B	Use no more than 50% of port capacity	Use no more than 60% of port capacity	Use more than 60% of port capacity
	4.4B	Use no more than 50% of airfield capacity	Use no more than 60% of airfield capacity	Use more than 60% of airfield capacity
Mobility	5.1B	No more than 3 hours	No more than 4 hours	More than 4 hours
	5.2B	No more than 1 hour	No more than 2 hours	More than 2 hours
	5.3B	No more than 4 hours	No more than 5 hours	More than 5 hours
Closure	6.1B	Retain airfield at least 21 days with 75% force closed	Retain airfield at least 18 days with 75% force closed	Retain airfield less than 18 days with 75% force closed
	6.2B	Retain airfield at least 21 days with 50% force closed	Retain airfield at least 18 days with 50% force closed	Retain airfield less than 18 days with 50% force closed
	6.3B	Seize airfield in no more than 6 hours	Seize airfield in no more than 12 hours	Seize airfield in more than 12 hours

support structure (EEA 4.1), what it takes to sustain the force performing an early entry mission (EEA 4.2), and what impact force resupply has on seaports (EEA 4.3) and airfields (EEA 4.4). This sub-analysis will provide sustainment data for comparison against the force sufficiency criteria.

(e) The mobility analysis will be conducted by TRAC-SAC utilizing a personal computer (PC)-based spreadsheet to obtain mobility performance data for comparison against the force sufficiency criteria's mobility goals (see table 1, EEAs 5.1 to 5.3). The mobility sufficiency criteria addresses how long, and with what assets, supplies and forces can be moved tactically to meet force consumption needs (EEA 5.1) and force repositioning requirements (EEAs 5.2 and 5.3). The objective of this sub-analysis is to provide the mobility data needed for comparison against the force sufficiency criteria.

(f) From the force sufficiency comparison outlined in paragraphs 3i(2)(b) through (e), above, the study team will use subject matter expert input to determine incremental improvements in force lethality, survivability, deployability, sustainability, and tactical mobility for each package. After adjustments (additions/deletions of units) have been made to the original force packages, the resulting packages will be modeled and the entire process repeated. This iterative process will occur until no additional improvement can be obtained for either the lightweight or middleweight force. The resulting force packages from the force sufficiency analysis will be referred to as the "objective lightweight force package" and the "objective middleweight force package", respectively. These force packages serve as input for the sensitivity and force tailoring analyses.

(3) Sensitivity analysis. The sensitivity analysis will use the objective packages to conduct additional combat analyses that will measure the objective force package's capability to perform opposed and forced entry missions. To measure this capability, changes will be made to the scenario to reflect these new conditions.

(a) First, to reflect opposed entry, the initiation of combat will be varied against force closure for each objective force package. Initially, the objective force packages will have combat begin when 75 percent of the early entry force is in the lodgment. If the force packages are successful in retaining the lodgment with 75 percent force closure, then combat will begin when 50 percent of the early entry force is in the lodgment.

(b) Second, to reflect forced entry, the objective force packages will be required to seize an enemy-held airfield. Simulations with less than 50 percent of the force closed into the lodgment will be used to evaluate each force package's ability to execute the forced entry mission. A run matrix is shown in table 3.

Table 3. Run matrix

		SUFFICIENCY RUNS			*SENSITIVITY RUNS (VIC)*		
Force package	Base run	Adj 1	Adj 2	Adj 3	75% Closure	50% Closure	Forced entry
Lightweight	yes	yes	possibly	possibly	yes	possibly	yes
Middleweight	yes	yes	possibly	possibly	yes	possibly	yes

(c) Lastly, the results of the sensitivity analysis will provide insights into the early entry tradeoffs for time-phased force and deployment data (TPFDD) adjustment and potential force composition changes needed to meet these more stressful force projection missions.

(4) Force tailoring analysis. The force tailoring analysis will use the objective force packages as a starting point to determine a baseline force that is tailorable for any early entry scenario. To determine the baseline tailorable early entry force, a goal program will balance the tradeoffs among the force's warfighting characteristics of lethality, survivability, deployability, tactical mobility, and sustainability, and use the sufficiency criteria of the early entry mission to determine a force package that is tailorable for a variety of early entry missions. The resultant package will be a tailorable early entry force "best suited" to meet most force projection requirements. The tailorable early entry force will serve as a basis from which additional force tailoring can be accomplished to meet mission, enemy, troops, terrain and weather and time available (METT-T) force projection requirements anywhere in the world. The result of this analysis will answer study issues 7 and 8.

(5) Final output. The final output will document the results of the analyses in a scripted brief. A detailed discussion of specific results will be provided as needed. Results will include the objective force packages for EUCOM 11, the tailorable baseline force, and insights and lessons learned from the analyses and sub-analyses.

j. Essential elements of analysis (EEA). The EEA are listed with the study issue they answer.

(1) Study issue 1: **What are the most lethal lightweight and middleweight forces?** [TRAC-SAC]

(a) EEA 1.1A. What capabilities will the lightweight force require to destroy 70 percent of enemy systems?

(b) EEA 1.1B. What capabilities will the middleweight force require to destroy 70 percent of enemy systems?

(c) EEA 1.2A. What capabilities will the lightweight force require to destroy 80 percent of the enemy tactical ballistic missile (TBM) capability?

(d) EEA 1.2B. What capabilities will the middleweight force require to destroy 90 percent of the enemy TBM capability?

(e) EEA 1.3A. What capabilities will the lightweight force require to destroy 80 percent of enemy helicopters?

(f) EEA 1.3B. What capabilities will the middleweight force require to destroy 80 percent of enemy helicopters?

(g) EEA 1.4A. What capabilities will the lightweight force require to destroy 80 percent of enemy artillery?

(h) EEA 1.4B. What capabilities will the middleweight force require to destroy 90 percent of enemy artillery?

(i) EEA 1.5A. What capabilities will the lightweight force require to destroy 80 percent of enemy air defense artillery?

(j) EEA 1.5B. What capabilities will the middleweight force require to destroy 90 percent of enemy air defense artillery?

(k) EEA 1.6A. What capabilities will the lightweight force require to destroy 90 percent of enemy reconnaissance elements?

(l) EEA 1.6B. What capabilities will the middleweight force require to destroy 90 percent of enemy reconnaissance elements?

(2) Study issue 2: **What are the most survivable lightweight and middleweight forces?** [TRAC-SAC]

(a) EEA 2.1A. What capabilities will the lightweight force require to retain 70 percent of its combat power?

(b) EEA 2.1B. What capabilities will the middleweight force require to retain 75 percent of its combat power?

(c) EEA 2.2A. What capabilities will the lightweight force require to retain 70 percent of its helicopters?

(d) EEA 2.2B. What capabilities will the middleweight force require to retain 80 percent of its helicopters?

(e) EEA 2.3A. What capabilities will the lightweight force require to retain 70 percent of its combat service support (CSS) structure?

(f) EEA 2.3B. What capabilities will the middleweight force require to retain 90 percent of its CSS structure?

(g) EEA 2.4A. What capabilities will the lightweight force require to suffer no more than 20 percent of its losses from TBM?

(h) EEA 2.4B. What capabilities will the middleweight force require to suffer no more than 10 percent of its losses from TBM?

(i) EEA 2.5A. What capabilities will the lightweight force require to keep the airfield open 75 percent of total combat time?

(j) EEA 2.5B. What capabilities will the middleweight force require to keep the airfield open 75 percent of total combat time?

(3) Study issue 3: **What are the lift requirements and closure profiles for lightweight and middleweight forces?** [MTMCTEA]

(a) EEA 3.1. What lightweight force will require no more than 750 lift sorties (of all types of aircraft)?

(b) EEA 3.2. What middleweight force will require no more than 1,500 lift sorties (of all types of aircraft)?

(c) EEA 3.3. What lightweight force will require no more than 12 days to deploy?

(d) EEA 3.4. What middleweight force will require no more than 21 days to deploy?

(e) EEA 3.5A. What lightweight force will require no more than four days to deploy one of its brigades?

(f) EEA 3.5B. What middleweight force will require no more than four days to deploy one of its brigades?

(g) EEA 3.6A. What is the lightweight force which requires no more than one fast sealift ship (FSS)?

(h) EEA 3.6B. What is the middleweight force which requires no more than three fast sealift ships (FSS)?

(i) EEA 3.7A. What is the lightweight force which will require no more than one prepositioned (PREPO) ship?

(j) EEA 3.7B. What is the middleweight force which will require no more than three prepositioned (PREPO) ships?

(4) Study issue 4: **What are the sustainment requirements and impacts on lightweight and middleweight forces?** [TRAC-LEE]

(a) EEA 4.1A. What are the CSS force structure requirements to support the lightweight force package, given that they cannot exceed 25 percent of the total force?

(b) EEA 4.1B. What are the CSS force structure requirements to support the middleweight force package, given that they cannot exceed 25 percent of the total force?

(c) EEA 4.2A. What are the supply support requirements to support the lightweight force package?

(d) EEA 4.2B. What are the supply support requirements to support the middleweight force package?

(e) EEA 4.3A. What are the impacts of having available no more than 50 percent of the port's capacity to receive/unload ships?

(f) EEA 4.3B. What are the impacts of having available no more than 50 percent of the port's capacity to receive/unload ships?

(g) EEA 4.4A. What are the impacts of having available no more than 50 percent of the airfield's capacity to receive/unload planes?

(h) EEA 4.4B. What are the impacts of having available no more than 50 percent of the airfield's capacity to receive/unload planes?

(5) Study issue 5: **What are the tactical mobility characteristics of lightweight and middleweight forces performing an early entry mission?** [TRAC-SAC]

(a) EEA 5.1A. What capabilities are required by the lightweight force to move supplies from within the lodgment, or alternate supply points, to its units in no more than three hours?

(b) EEA 5.1B. What capabilities are required by the middleweight force to move supplies from within the lodgment, or alternate supply points, to its units in no more than three hours?

(c) EEA 5.2A. What capabilities are required by the lightweight force to move personnel and equipment within the lodgment in no more than one hour?

(d) EEA 5.2B. What capabilities are required by the middleweight force to move personnel and equipment within the lodgment in no more than one hour?

(e) EEA 5.3A. What capabilities are required by the lightweight force to expand the battle space to a distance of 40 kilometers (km) from the lodgment in no more than four hours?

(f) EEA 5.3B. What capabilities are required by the middleweight force to expand the battle space to a distance of 40 km from the lodgment in no more than four hours?

(6) Study issue 6: **What is the impact on lightweight and middleweight forces when combat begins while force closure is still being accomplished?** [TRAC-SAC]

(a) EEA 6.1A. What capabilities are required by the lightweight force to retain the airfield at least 12 days with only 75 percent force closure?

(b) EEA 6.1B. What capabilities are required by the middleweight force to retain the airfield at least 21 days with only 75 percent force closure?

(c) EEA 6.2A. What capabilities are required by the lightweight force to retain the airfield at least 12 days with only 50 percent closure, given a successful retention at 75 percent closure?

(d) EEA 6.2B. What capabilities are required by the middleweight force to retain the airfield at least 21 days with only 50 percent closure, given a successful retention at 75 percent closure?

(e) EEA 6.3A. What capabilities are required by the lightweight force to seize the airfield in no more than six hours?

(f) EEA 6.3B. What capabilities are required by the middleweight force to seize the airfield in no more than six hours?

(7) Study issue 7: **What is the composition of the middleweight force performing an early entry mission?** [TRAC-SAC]

(a) EEA 7.1. What types of systems, and in what quantities, are required for the middleweight force to be successful?

(b) EEA 7.2. How many units, and what types, are in the middleweight force?

(8) Study issue 8: **What are the tradeoffs among force lethality, survivability, and deployability?** [TRAC-SAC]

(a) EEA 8.1. What units and systems best maximize lethality and survivability while minimizing deployment and sustainment requirements?

(b) EEA 8.2. What units and systems are essential to the force, regardless of lethality and deployment?

k. Measures of effectiveness (MOE) and measures of performance (MOP).

(1) The killer-victim scoreboards for each two-hour interval of simulated battle time. [MOE]

(a) EEAs 1.2 through 1.6 can be answered by an analysis of the Blue systems which are most lethal in the battle and at what stage of the battle these systems inflict the most damage.

(b) A knowledge of what enemy systems are most lethal to each Blue system will assist in identifying what can be done to improve the survivability of Blue systems.

(2) The strength of each unit after every two hours of simulated battle time. [MOE] A knowledge of strengths over time for Blue force and Red force components will aid in the analysis of the capabilities needed to improve the lethality and survivability of the Blue force.

(3) The amount of time the Blue force controls the airfield. [MOE]

(4) The number of sorties required to deploy and sustain each of the Blue force packages. [MOP]

(5) The number of days required for each Blue unit to deploy. [MOP]

(6) The number of ships used for deployment and sustainment of each of the Blue force packages. [MOP]

(7) The CSS force structure required to sustain each Blue force package. The force structure will be measured in terms of short-tons (sTONs) and gallons required to support the force, personnel and equipment contained in the support structure, and ability of the CSS force structure to accomplish the concept of support. [MOE]

(8) The combat strength of the objective packages in terms of personnel and key weapon systems in theater for each day of the deployment schedule. [MOP] Analyzing the results of less than full closure of the objective packages requires knowing the force strength day by day.

(9) The transportation assets, including the number of resupply trucks and the systems which have the organic ability to move themselves, required for the Blue force. [MOP]

(10) The proportion of the Blue force which is not tactically mobile. [MOP]

(11) The number of units that are tactically mobile by type organic transportation capability and the number of units that can be moved with assets from other units. [MOP]

4. Support and resource requirements.

a. Support requirements.

(1) EELS BL.

(a) Serve as study sponsor.

(b) Approve study issues and study plan.

(c) Approve scripted brief as final product of the study.

(d) Participate in in-process reviews (IPR).

Table 4. Correlation between MOE/MOP and EEA

EEA	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
1.10	X	X									
1.20	X										
1.30	X										
1.40	X										
1.50	X										
1.60	X										
2.10	X	X									
2.20	X										
2.30	X										
2.40	X										
2.50	X		X								
3.10				X							
3.20				X							
3.30					X						
3.40					X						
3.50					X						
3.60						X					
3.70						X					
4.10						X					
4.20				X							
4.30									X		
4.40							X				
5.10									X		
5.20									X	X	X
5.30									X	X	X
6.10	X	X	X					X			
6.20	X	X	X					X			
6.30	X	X	X					X			
7.10	X	X	X								
7.20	X	X	X	X		X	X	X	X		
8.10	X	X	X	X	X	X	X	X	X		
8.20							X		X	X	X

(e) Provide requested travel funding.

(2) TRAC-SAC.

(a) Serve as the study agency.

(b) Write the study plan.

(c) Provide analysis to answer EEAs 5.1 through 5.3, 7.1, 7.2, 8.1, and 8.2.

(d) Assist other agencies in answering all EEA.

(e) Establish and chair IPRs.

(f) Integrate supporting analyses into the study and develop answers to study issues.

(g) Prepare scripted briefing as final product.

(3) TRAC-Operations Analysis Center (OAC) Production Analysis Directorate (PAD).

(a) Provide combat simulation modeling support.

(b) Develop EUCOM 11 base case for VIC.

(c) Serve as lead agency for VIC computer simulation of EUCOM 11 and interpretation of model results.

(d) Provide analysis to answer EEAs 1.1 through 1.6, 2.1 through 2.5, and assist in answering 5.1 through 5.3.

(e) Provide data to all study elements.

(f) Participate in IPRs.

(4) TRAC-SWC.

(a) Provide assistance in developing EUCOM 11 for the base case.

(b) Certify the base case scenario in VIC.

(c) Develop employment concept for Blue forces in the alternative packages.

(d) Participate in IPRs.

(5) TRAC-LEE.

(a) Conduct the sustainment analysis and evaluate methods for improving force sustainment.

(b) Provide analysis to answer EEAs 4.1 through 4.4.

(c) Participate in IPRs.

(6) MTMCTEA.

(a) Conduct deployability analysis.

(b) Provide analysis to answer EEAs 3.1 through 3.7 and 6.1 through 6.3.

(c) Participate in IPRs.

(7) Threats Directorate, Combined Arms Command (CAC Threats).

(a) Provide certification of threat portrayal in the base case.

(b) Develop employment concept for the threat in the alternative packages.

(c) Annotate what threat options are not employed which may impact on the early entry force package.

(d) Participate in IPRs.

b. Resource requirements.

(1) Personnel. Estimated personnel requirements are outlined in table 5 for principal supporting agencies.

Table 5. Estimated personnel requirements

Agency	PSY FY 93-94
TRAC-SAC	3.50
TRAC-OAC	3.00
TRAC-LEE	1.00
TRAC-SWC	0.75
CAC-THREATS	1.75
MTMCTEA	1.00
TOTAL	11.0

(2) Funds. Requirements for coordination among EELS BL, TRAC-SAC, TRAC-LEE, and MTMCTEA are expected to translate into a travel budget of approximately $10,500 for the duration of the study. The EELS BL will assist in funding travel requirements. Video/teleconferences will be used whenever possible to reduce travel requirements.

c. Data requirements. Weapon and system performance data for fiscal year (FY) 2001 Blue forces and 2006 threat forces must be developed for input to VIC. Blue systems and munitions lists will be generated by TRAC-SWC; Red systems and munitions lists by CAC Threats.

5. Administration.

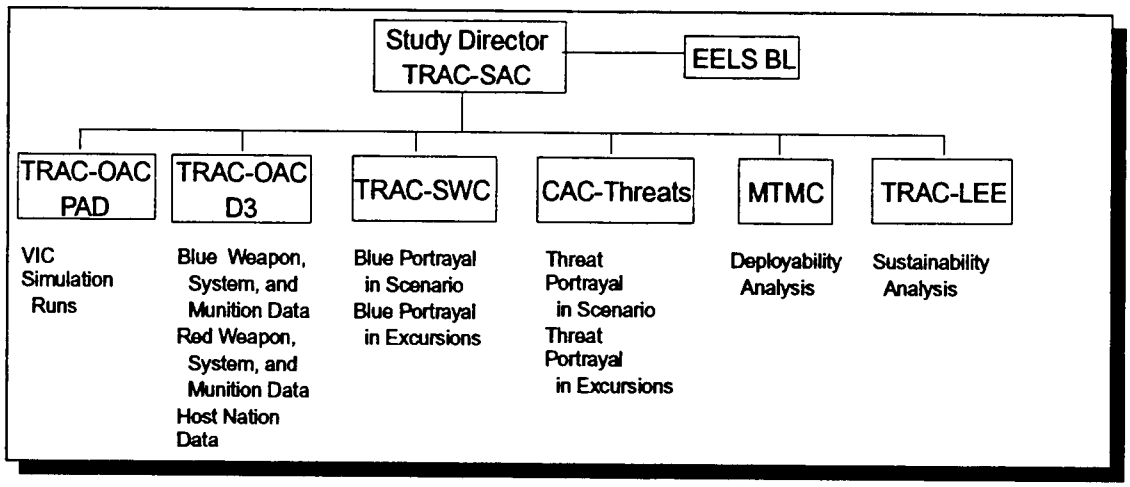

Figure 2. Study organization

a. Study title. Early Entry Force Analysis.

b. Study organization (see figure 2). The study director is LTC Thomas J. Pawlowski, Study Directorate, TRAC-SAC; DSN: 552-3330, or commercial: (913) 684-3330. Mailing address is Director, TRAC-SAC; ATTN: ATRC-SAS; Fort Leavenworth, KS 66027-5200.

c. Coordination. Direct coordination between agencies is authorized. Inform study director of actions taken.

d. Study schedule.

Initial EELS analysis support meeting	22 Jul 93
Base case packages given to TRAC-OAC	1 Nov 93
Lethality/survivability analyses in VIC begin	1 Dec 93
Working group meeting	14 Dec 93
Deployability, sustainability, and mobility analyses begin	1 Jan 94
Analysis of base case packages complete	15 Feb 94
Begin force sufficiency analysis	16 Feb 94

Study/analysis plan certified by Director, TRAC-SAC	24 Feb 94
IPR	25 Feb 94
Force sufficiency basecase (lightweight force) complete	28 Mar 94
IPR	29 Mar 94
Force sufficiency basecase (middleweight force) complete	15 Apr 94
Force sufficiency analysis (lightweight force) complete	10 May 94
IPR (present emerging results)	18 May 94
Force sufficiency analysis (middleweight force) complete	20 May 94
Sensitivity analysis (lightweight force) complete	31 May 94
IPR (present emerging results)	10 Jun 94
Sensitivity analysis (middleweight force) complete	15 Jun 94
Force tailoring analysis (lightweight force) complete	30 Jun 94
Force tailoring analysis (middleweight force) complete	30 Jun 94
Integration of study analyses	Jun/Jul 94
Final results presented and scripted brief delivered	11 Aug 94

e. *Points of contact.*

	DSN
(1) EELS BL:	
- LTC Langhauser	680-5860
- CPT Beidleman	680-3581
(2) TRAC-SAC Study team:	
- LTC Pawlowski	552-3330
- MAJ Rodgers	552-7396
- CPT Cioppa	552-5419
(3) TRAC-SWC:	
- MAJ Beverly	552-4012
- CPT Manago	552-4012
(4) TRAC-OAC:	
- John Abshier	552-2424
(5) TRAC-LEE:	
- Pat Doherty	539-1802
(6) MTMCTEA:	
- Diane Buescher	927-5268
- CPT Jones	927-5268
(7) CAC-Threats:	
- James Hicks	552-5197
- Eric Berry	552-7972

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ANNEX 1

TO

APPENDIX A

STUDY TASKER

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REPLY TO ATTENTION OF

21 JUN 1993

ATCD-ZA

MEMORANDUM FOR Director, U.S. Army TRADOC Analysis Command-Fort Leavenworth, Fort Leavenworth, KS 66027-5200

SUBJECT: TRAC Support to EELS Battle Lab and LAM 94 Issue

1. TRAC-WSMR and TRAC-OAC's efforts in the 2K and 10K studies have been excellent. These efforts are truly assisting the battle lab in its efforts.

2. As you are aware, the EELS Battle Lab is the TRADOC lead for the LAM 94 Issue: More Lethal, Survivable, and Deployable Forces. To successfully address this issue will require additional iterations of the 2K and 10K study efforts.

a. The 2K Study will require the investigation of additional weapon systems, option to improve the tactical mobility of the force, and the integration of soldier enhancements.

b. The 10K Study will require the use of another scenario, LANTCOM. LANTCOM will likely provide significantly different insights than the SWA scenario used in the first iteration.

3. Would want results from the next iteration of each study by the December 1993 timeframe. If this is not feasible, need to provide the earliest possible completion time.

4. My staff has been in contact with Mr. Dick Porter, TRAC-WSMR, and Mr. Ed Arendt, TRAC-OAC. My POC at the EELS Battle Lab is MAJ Miller, DSN 680-5856, commercial (804) 728-5856, or MAJ Langhauser after 1 August.

LARRY G. LEHOWICZ
Major General, GS
Deputy Chief of Staff for
Combat Developments

CF:
Dir, TRAC-OAC, Fort Leavenworth, KS 66027-5200
Dir, TRAC-WSMR, White Sands Missile Range, NM 88002-5502

REPLY TO ATTENTION OF

21 JUN 1993

ATCD-ZA

MEMORANDUM FOR Director, U.S. Army TRADOC Analysis Command-Fort Leavenworth, Fort Leavenworth, KS 66027-5200

SUBJECT: LAM 94 Issue; More Lethal, Survivable, Deployable Forces

1. The purpose of this memorandum is to request that you take the lead in addressing LAM 94 sub-issues:

a. Determine how to make light forces more lethal, tactically mobile, survivable and sustainable.

b. Determine potential contributions to battlefield by "middle-weight" units, light enough for rapid force projection, yet tactically mobile and lethal.

2. Would like to capitalize on the work being done by TRAC-WSMR and TRAC-OAC, the 2K and 10K studies respectively. Work would need to be expanded to address sub-issues stated above.

3. Will need to establish Process Action Team(s) for the issues from the materiel development and combat development communities, battle labs, RDECs, and other MACOMs. The products of these efforts will be used for the development of decision packets for the CSA and the SA that present options on how to achieve more lethal, survivable, deployable forces.

4. My staff has been in contact with Mr. Porter, TRAC-WSMR, and Mr. Ed Arendt, TRAC-OAC. My POC for this action is MAJ Miller, DSN 680-5856 or commercial (804) 728-5856, or MAJ Langhauser after 1 August.

LARRY G. LEHOWICZ
Major General, GS
Deputy Chief of Staff for
Combat Developments

CF:
Dir, TRAC-OAC, Fort Leavenworth, KS 66027-5200
Dir, TRAC-WSMR, White Sands Missile Range, NM 88002-5502
TSM, Soldier, ATTN: ATZB-TS, Fort Benning, GA 31905

ANNEX 2

TO

APPENDIX A

GLOSSARY

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APPENDIX B

GLOSSARY

BL	battle laboratory
CAC	Combined Arms Command
CSS	combat service support
EEA	essential element(s) of analysis
EELS	Early Entry Lethality and Survivability (battle laboratory)
EUCOM	European Command
FSS	fast sealift ship(s)
FY	fiscal year
Hvy Bde Afloat	heavy brigade afloat
IPR	in-process review(s)
km	kilometer(s)
LAM	Louisiana Maneuvers
LEE	TRAC-Fort Lee
METT-T	mission, enemy, troops, terrain and weather, and time available
MOE	measures of effectiveness
MOP	measures of performance
MTMCTEA	Military Traffic Management Command Transportation Engineering Agency
NMS	National Military Strategy
OAC	TRAC-Operations Analysis Center
PAD	Production Analysis Directorate (TRAC-OAC)
PC	personal computer
PREPO	prepositioned
SAC	TRAC-Study and Analysis Center
sTON	short-ton(s)
SWC	TRAC-Scenario and Wargaming Center

TBM	tactical ballistic missile
TPFDD	time-phased force and deployment data
TRAC	TRADOC Analysis Center
TRADOC	Training and Doctrine Command
VIC	Vector-In-Commander (model)

ANNEX 3

TO

APPENDIX A

DISTRIBUTION

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APPENDIX C
DISTRIBUTION

Commander, CAC and Fort Leavenworth
ATTN: ATZL-CG
Fort Leavenworth, KS 66027-5000

TRADOC DCSCD
ATTN: ATCD-ZA
Fort Monroe, VA 23651

EELS BL
ATTN: ATCD-L
Fort Monroe, VA 23651

TRADOC DCSA
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Fort Monroe, VA 23651

Director, CAC-Threats
ATTN: ATZL-CST-S
Fort Leavenworth, KS 66027

Director, TRAC
ATTN: ATRC/ATRC-TD/ATRC-SW
Fort Leavenworth, KS 66027-5200

Director, TRAC-LEE
ATTN: ATRC-L
Fort Lee, VA 23801-6140

Director, TRAC-OAC
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Fort Leavenworth, KS 66027

Director, TRAC-SAC
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Fort Leavenworth, KS 66027

Director, TRAC-WSMR
ATTN: ATRC-W
White Sands Missile Range, NM 88002-5502

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APPENDIX B

REFERENCES

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APPENDIX B

REFERENCES

Field Manual 100-5, *Operations*, June 1993.

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APPENDIX C

UNIT COMPOSITION

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APPENDIX C

UNIT COMPOSITION

UNIT	MAJOR WEAPON SYSTEMS
Light Infantry Bn HHC	4 81mm mortars
Light Infantry Co	6 Javelins
Light Infantry AT Co	20 HMMWV TOWs
Mechanized Infantry Bn HHC	14 M2A2s
Mechanized Infantry Co	6 120mm mortars
Mechanized AT Co	12 HMMWV TOWs
LOSAT Co	12 LOSATs
NLOS Co	12 NLOSs
M1 Bn HHC	6 120mm mortars
M1 Co	14 M1A2s
AGS Co	14 AGS
M119 Btry	6 M119s
M109A6 Btry	8 M109A6s
M198 Btry	8 M198s
Lightweight 155mm Btry	8 Lightweight 155mm
MLRS Btry	9 MLRS
HIMARS Btry	9 HIMARS
Corps SAM Btry	8 Corps SAMs
Hawk Btry	9 Hawks
Avenger Btry (Division)	18 Avengers
Avenger Btry (Corps)	24 Avengers
OH58D Atk Co	8 OH58Ds
OH58D Recon Trp	8 OH58Ds
AH66 Atk Co	8 RAH66s
RAH66 Trp	8 RAH66s
AH64LB Atk Co	8 AH64LBs
Light Ground Cavalry Trp	8 HMMWV TOWS, 4 AGS, 2 81mm mortars

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APPENDIX D

SUSTAINMENT ANALYSIS

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EARLY ENTRY FORCE SUSTAINMENT ANALYSIS

SEPTEMBER 1994

Patricia W. Doherty
Robert V. Kaufman

TRADOC ANALYSIS CENTER
Fort Lee, VA 23801

TABLE OF CONTENTS

FIGURES

TABLES

I. INTRODUCTION

A. PURPOSE. This analysis is in support of the Early Entry Force Analysis (EEFA) study conducted by the Training and Doctrine Command's (TRADOC) Analysis Center (TRAC), Studies and Analysis Center. It is part of a comprehensive analysis on early entry force packages performed by TRAC-SAC. The sustainment analysis determines both the CSS force structure and the daily supply requirements to sustain the study force packages.

B. SUMMARY. The study analyzes both the Lightweight Force and the Middleweight Force as defined by the Early Entry Battle Lab. Each of these forces is adjusted to form alternate force packages. The Lightweight Force has three adjustments and the Middleweight Force has two adjustments. Each of these adjustments adds and/or subtracts combat units from base case force packages to form adjusted force packages. Adjustments are cumulative in that the first adjustment was derived from the base case and the next adjustment was derived from the previous adjustment.

One of SAC's study goals was to iterate the combat and combat support (C,CS) force structure, using a goal programming technique, for both the Lightweight and Middleweight until the Combat Service Support (CSS) force structure was less than or equal to 25 percent of the total force and still capable of sustaining the force. Due to study time constraints an insufficient number of iterations was made to determine whether this goal could be met.

The personnel strength of the force structure for the Lightweight base case and three adjustments is 21, 27, 26, and 26 percent, respectively, of the total force strength (Table 1). Thus, only the Base Case met the 25 percent goal. The reason for the higher percentage of CSS personnel in the adjusted packages is that all Lightweight force packages require approximately the same corps support slice. Since the combat and combat support portions of the adjusted force packages have fewer people than the Base Case, the CSS percentage increases.

Table 1. Lightweight Force Personnel Strengths.

	BASE CASE	ADJ #1	ADJ #2	ADJ #3
TOTAL CSS PERSONNEL	3,186	2,149	2,149	2,037
TOTAL PERSONNEL	15,268	8,004	8,153	7,852
CSS PERCENTAGE	21	27	26	26

The Lightweight Base Case has the highest sustainment requirements (Table 2). The primary reason for the lower requirements in the adjusted packages is the deletion of two infantry brigades from the Base Case. This substantially decreased both personnel strength and ammunition usage. There was little difference in sustainment requirements among the three adjusted Lightweight force packages.

Table 2. Lightweight Force Sustainment Requirements.

SUSTAINMENT	BASE CASE	ADJ #1	ADJ #2	ADJ #3
AMMO (STONS)	1,165	715	804	736
FUEL (GALS)	185,000	171,000	179,000	151,000
WATER (GALS)	182,000	95,000	97,000	94,000
OTHER (STONS)	168	88	90	87

The Base Case and the two adjusted force packages in the Middleweight force require a CSS force structure that is comprised of 31, 29, and 30 percent, respectively, of the total Middleweight force (Table 3). Thus none of the Middleweight force packages met the 25 percent study criterion. One reason for a heavier percentage of CSS personnel in the Middleweight CSS force is the addition to the CSG of three companies of heavy equipment transporters (HET), critical to the agility of the Middleweight force.

Table 3. Middleweight Force Personnel Strengths.

	BASE CASE	ADJ #1	ADJ #2
TOTAL CSS PERSONNEL	5,751	4,596	4,586
TOTAL FORCE PERSONNEL	18,473	15,966	15,414
CSS PERCENTAGE	31	29	30

Table 4 shows the Middleweight sustainment requirements. Since both of the adjusted force packages delete combat units from the Base Case force package, this results in reduced requirements for the adjusted packages. Therefore, both of these adjusted forces require considerably less sustainment than the Base Case. There was little difference in sustainment requirements between the two adjusted force packages.

Table 4. Middleweight Force Sustainment Requirements.

SUSTAINMENT AREA	BASE CASE	ADJ #1	ADJ #2
AMMO (STONS)	1,848	1,784	1,742
FUEL (GALS)	438,000	397,000	389,000
WATER (GALS)	220,000	190,000	184,000
OTHER (STONS)	204	176	170

C. OBJECTIVES.

1. Determine the CSS force structure required to support the Early Entry force packages.

2. Determine the daily sustainment requirements for each of the Early Entry force packages.

D. SCOPE.

1. This analysis determines the CSS force structure required within the theater of operations to support each of the Early Entry force packages.

2. Sustainment requirements are developed for supply classes I, II, III, IV, V, VI, and VIII for each adjustment.

3. Requirements are developed for the EUCOM South scenario.

E. LIMITATIONS.

1. Seaport operations are not addressed.

2. Joint requirements are not addressed.

F. CONSTRAINTS. Analysis was constrained by study time limits.

G. SCENARIO. EUCOM South in 2001.

H. ASSUMPTIONS.

1. Since planning factors are not available for EUCOM South, a SouthWest Asia (SWA) most closely represents EUCOM South for sustainment purposes.

2. Division level consumption rates are representative of actual water requirements.

3. One A-ration, one B-ration, and one Meals Ready-to-Eat (MRE) per soldier per day is representative of actual Class I requirements.

4. The task forces will be deployed in 2001.

5. Ammunition requirements based on operational planning factors of "first day moderate defense" best represent the study scenario.

6. Petroleum usage rates for "moderate" consumption will best represent the study scenario.

7. Resupply of major items of equipment (Class VII) will not be available for the duration of this mission.

8. Class IX resupply will be restricted to the units' Prescribed Load List (PLL) and Authorized Stockage List (ASL).

9. Medical support will be available from naval hospital ships offshore.

I. ESSENTIAL ELEMENTS OF ANALYSIS. This analysis addresses Study Issue 4 with the following Essential Elements of Analysis (EEA):

> Study Issue 4. What are the sustainment requirements of Lightweight and Middleweight forces?

EEA 4.1A. What is the CSS force structure required to support each Lightweight force package, given that it cannot exceed 25 percent of the total force?

EEA 4.1B. What is the CSS force structure required to support each Middleweight force package, given that it cannot exceed 25 percent of the total force?

EEA 4.2A. What are the sustainment requirements to support the Lightweight force packages?

EEA 4.2B. What are the sustainment requirements to support the Middleweight force packages?

J. MEASURES OF PERFORMANCE (MOP).

MOP	Unit of Measure
1. Force strength of each task force	Persons.
2. Force strength of the CSS units	Persons.
3. Bulk fuel requirements	Gallons per day.
4. Ammunition requirements	Short tons per day.
5. Water requirements	Gallons per day.
6. Other consumption requirements (i.e., Class I, II, IV, VI, and VIII)	Short tons per day.

K. ALTERNATIVES.

1. General. The study addresses two Early Entry forces: a Lightweight and a Middleweight force. Each of the two forces is adjusted to form alternate force packages. The adjustments add and/or delete various combat units to test lethality, survivability, and deployability. These adjustments are cumulative. A complete description of these alternatives can be found in the main study report.

2. Lightweight Force Packages. The Lightweight Base Case combat and combat support force consists of three infantry brigades, an aviation brigade, an armored gun system (AGS) company, and corps elements from military intelligence, artillery, and air defense. The Lightweight force package has three adjustments to the Base Case (Table 5).

Table 5. Lightweight Force Combat Adjustments.

	ADJUSTMENT # 1	ADJUSTMENT # 2	ADJUSTMENT # 3
ADD	1 LOSAT Co	1 AH64LB Bn	1 NLOS Co
	2 AH66 Bn	1 155mm Howitzer Bn	
DELETE	2 INF Bdes	1 AH66 Bn	1 AH64LB Bn
	1 AGS Bn	1 105mm Howitzer Bn	
	2 OH58D Bn		

3. Middleweight Force Packages. The Middleweight force consists of the Technological Improvement alternative from the 2K-10K study with the Heavy Brigade Afloat added. The Middleweight force package has two adjustments to the Base Case (Table 6).

Table 6. Middleweight Force Combat Adjustments.

	ADJUSTMENT # 1	ADJUSTMENT # 2
DELETE	1 Lt Inf Bn	1 AGS Bn
	1 AH66 Atk Hel Co	
	1 AH66 Recon Trp	
	1 AH64LB Co	

II. METHODOLOGY.

A. GENERAL OVERVIEW. An overview of the methodology used in performing the sustainment analysis is graphically depicted in Figure 1. The analysis has three major components. These included the force structure design, supply requirements determination, and a comparative analysis across the alternatives.

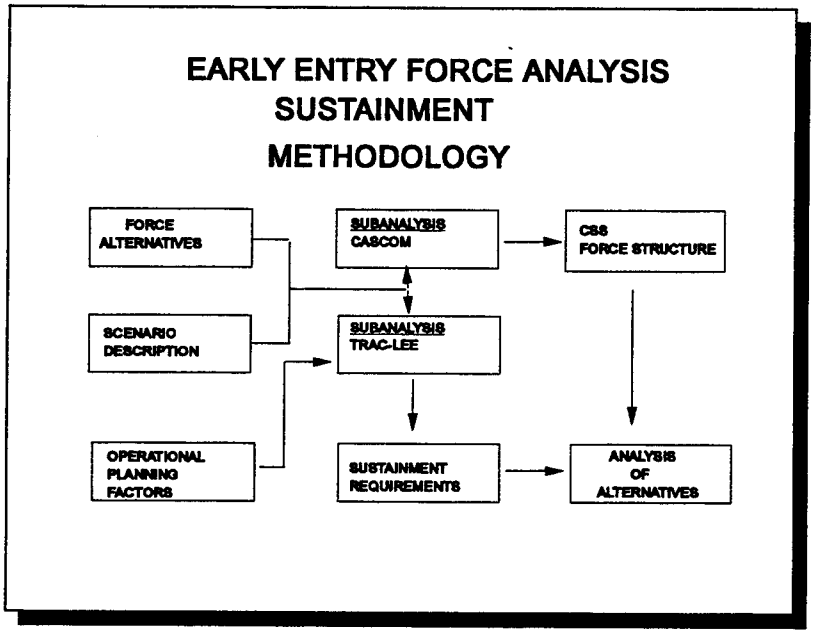

Figure 1. Analysis Methodology - Overview

B. FORCE STRUCTURE DESIGN. CASCOM developed the CSS Force Structure for the Lightweight and Middleweight Base Cases and each of the study adjustments. In order to develop the CSS Force Structure, CASCOM evaluated both the Combat and Combat Support force structure and the study scenario to determine the level of support required, given the above assumptions.

C. DAILY SUSTAINMENT REQUIREMENTS.

TRAC-LEE developed daily consumption rates for each of the force packages using the Supply Usage Requirements Estimator (SURE) template program. From organizational diagrams of the task force adjustments, lists of standard requirements codes (SRCs) were developed for all units in each force package. SURE, which was developed by CASCOM based on FM 101-10-1, has been updated with the most current operational planning factors available.

D. COMPARATIVE ANALYSIS. The comparative analysis performed by TRAC-LEE examines the differences in force structure and requirements among the Base Case and each of the

force adjustments for both the Lightweight and Middleweight forces. Reasons for the differences are determined and assessed.

In order to answer EEA 4.1A and 4.1B, force structure differences are examined in terms of total CSS personnel strength and the percentage of CSS personnel to the total force personnel strength. Reasons for individual differences are also addressed.

In order to answer EEA 4.2A and 4.2B, supply requirements for ammunition, fuel, water, and other supplies are compared to determine the reasons for increases and/or decreases in usage.

E. MODEL.

1. General. SURE was developed by CASCOM to provide an automated method for computing supply usage requirements for Supply Classes I, II, III (bulk), IV, V, VI, VIII, and water. The SURE program provides a standardized, automated, and self-contained capability for Army logisticians to compute requirements for a single unit or a task force with a variety of scenarios. For ammunition and fuel SURE uses HQDA approved operational planning factors.

2. Fuel. Daily bulk petroleum consumption requirements are developed using equipment consumption rates, geographic usage profiles, and SRC equipment densities. Equipment consumption rates and usage profiles are found in Supply Bulletin 710-2. A geographic usage profile consists of operating hours per day for all equipment categories in a geographic location except wheeled vehicles which are shown as kilometers traveled per day. These hours or kilometers are used in computing requirements.

3. Ammunition. Daily ammunition requirements are developed using SRC weapon densities and operational ammunition consumption rates for the first day defend (moderate) posture. Operational ammunition rates are approved by HQDA and are maintained by the CASCOM in the Logistics Data Base (LDB) at Fort Leavenworth, KS. The CASCOM uses operational rates to update FM 101-10-1/2. (Because of the long publishing cycle between updates of FM 101-10-1/2, SURE contains the most recent operational ammunition consumption rates approved by HQDA.)

4. Water. Water requirements are determined based on population and scenario. A factor of 11.93 gallons of water per person per day is used.

5. Other Supplies. Supplies, which included Classes I, II, IV, VI, and VIII, are aggregated into a category called "other." Other supplies are determined from population consumption profiles based on a rate of 22.09 lbs per person per day.

III. ANALYSIS

A. CSS CONCEPT. The CSS force structure uses modular and Split Operations concepts. The modular units are task organized, based on functional areas, to support the missions of the alternative combat and combat support force packages. Under the Split Operations concept the number of CSS personnel required within the theater of operations is reduced when compared to the current doctrine. For example, the Corps Materiel Management Center (CMMC) will deploy modular materiel management teams (MMT). The MMT will communicate with the fixed-site computer in CONUS by satellite, instead of deploying the entire CMMC. This reduces the deployment requirements for CSS and provides the materiel management from the onset of operations through redeployment. The size of the Division Support Command (DISCOM) is also reduced to reflect force projection for early entry and emerging Force XXI concepts. Should the mission extend beyond that as described in the EUCOM South scenario, then this CSS force structure would have to be enlarged to provide the sustainment needed for the extended duration.

B. LIGHTWEIGHT FORCE PACKAGES.

1. CSS FORCE STRUCTURE.

a. Base Case.

The CSS force structure for the Lightweight Base Case (Figure 2) consists of three Forward Support Battalions (FSB) and a Main Support Bn (MSB) in the division area, and a Corps Support Group for a total of 3300 CSS personnel (Table 7). This is 21 percent of the total force structure and, therefore, meets the study criterion in EEA 4.1A, which constrains the Lightweight force to 25 percent of the force.

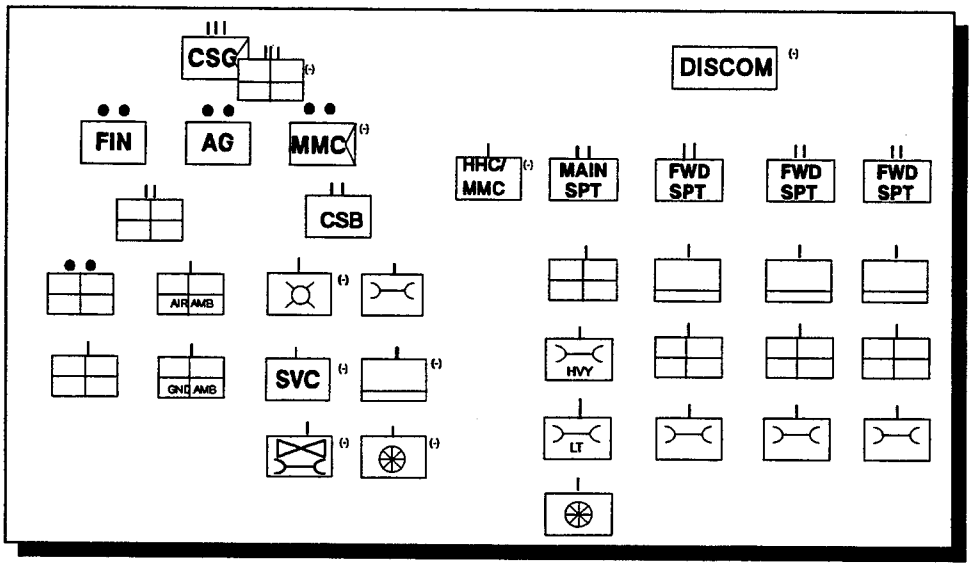

Figure 2. CSS Lightweight Base Case Force Structure

The CSG is comprised of modular elements from the CMMC, the Movement Control Center (MCC) , finance and personnel, in addition to a corps support battalion and a medical battalion. The medical support is configured to provide only level 1 and level 2 medical support. It is assumed that for an early entry force, a Naval hospital ship will provide level 3 support.

Table 7. CSS Lightweight Personnel Strengths

LIGHTWEIGHT FORCE PACKAGES				
	BASE CASE	ADJ #1	ADJ #2	ADJ #3
MAINTENANCE				
AVIATION	450	450	450	338
GROUND	109	109	109	109
AMMO	87	87	87	87
MEDICAL	377	377	377	377
TRANSPORTATION	89	89	89	89
SUPPLY & SERVICES	284	284	284	284
CSG/HHC	155	155	155	155
DISCOM HHC/MMC	79	79	79	79
MSB	980	327	327	327
FSB	576	192	192	192
TOTAL CSS PERSONNEL	3,186	2,149	2,149	2,037
TOTAL PERSONNEL	15,268	8,004	8,153	7,852
CSS PERCENTAGE	21	27	26	26

b. Adjustment #1. Deletion of the two infantry brigades in Adjustment 1 results in the removal of the two associated Forward Support Battalions (FSBs) and a reduction in size of the Main Support Battalion (MSB). The adjusted CSS force structure of 2149 persons represents 27 percent of the total force. The increase in the percentage over the base cases is due to the size of the CSG, which remained unchanged. Since the CSG is already at a minimum, with only one company in each of the supporting CSS functional areas (i.e., arm, fuel, fix, move, man, and medical), no further reduction could be made.

c. Adjustment #2. To create Adjustment #2 an AH64 Longbow battalion replaces an AH66 battalion and a 155mm Howitzer battalion replaces a 105mm Howitzer Battalion. These changes in the combat force structure do not impact the CSS force structure. Adjustment #2, therefore, requires the same CSS force structure as Adjustment #1. However, replacing the 105mm Howitzer battalion with the 155mm Howitzer battalion increased the combat personnel strength by 149 people. Since the total force personnel strength increases slightly, the CSS percentage is reduced to 26 percent.

d. Adjustment #3. Adjustment #3 adds an NLOS company and deletes an AH64 Longbow battalion. Addition of the NLOS company did not require any increase in CSS units. However, removal of the AH64Longbow battalion reduced the number of aviation maintenance personnel required from 450 to 338. The net effect of changes in the C,CS and CSS force personnel strengths is a CSS force structure of 2,037 persons, which is 26 percent of the total force package.

e. Summary. Thus, only the Lightweight base case meets the 25 percent study constraint. However, all three alternatives are within two percent of the study goal.

2. TOTAL FORCE SUSTAINMENT REQUIREMENTS.

a. Discussion. Sustainment requirements for the Lightweight Force Packages are presented in terms of ammunition, fuel, water, and other supplies. Table 8 displays total sustainment requirements for each of the Lightweight force packages.

Table 8. Lightweight Daily Sustainment.

SUSTAINMENT AREAS	BASE CASE	ADJ #1	ADJ #2	ADJ #3
AMMO (STONS)	1,165	715	804	736
FUEL (GALS)	185,000	171,000	179000	151,000
WATER (GALS)	182,000	95,000	97,000	94,000
OTHER (STONS)	168	88	90	87

b. Ammunition.

Ammunition usage for the Base Case is 1165 short tons (Table 8). Of this total usage, over 60 percent is artillery ammunition, about 15 percent is for helicopter ammunition, with the remaining 25 percent spread among the other combat units and CSS units.

When two brigades are deleted along with the other unit changes for Adjustment #1, ammunition usage drops by 39 percent to 715 short tons. Two divisional battalions of artillery are removed as part of the deleted brigades, which accounts for most of the decrease.

The major difference in ammunition usage between Adjustment #1 and Adjustment #2 is the replacement of the 105mm artillery battalion with a 155mm artillery battalion. The artillery increases ammunition usage by 78 short tons. The AH64 Longbow, which replaces the AH66, also increases ammunition usage by an additional 11 short tons. The result is a usage rate of 804 short tons per day, which is 12 percent higher than Adjustment #1, but still 31 percent below the base case.

Finally, an NLOS company is added and an AH64 Longbow battalion removed to create Adjustment #3. The net result is a 68 short ton or eight percent reduction below Adjustment #2 to 736 short tons. This reduction is also 27 percent below the base case.

Thus, since artillery accounts for over 60 percent of ammunition usage, any change in artillery makes a significant impact on total usage. Removal of the two infantry brigades with their artillery and changing from 105mm to 155mm Howitzers cause the greatest impacts on ammunition.

c. Fuel. Fuel usage for the Base Case is 185,000 gallons, of which helicopters use 61 percent. Approximately half of the helicopter usage, 54,000 gallons, is attributable to the assault helicopters, UH60s.

Removal of two infantry brigades and two OH58D battalions, while adding two AH66 battalions, to create Adjustment #1 results in a net reduction in fuel usage of eight percent to 171,000 gallons.

Adjustment #2 replaces an AH66 battalion with an AH64LB battalion and the 105mm artillery battalion with a 155mm artillery battalion. As a result, fuel usage increases to 179,000 gallons, which is five percent higher than Adjustment #1 but still three percent lower than the base case. This increase in usage over Adjustment #1 is primarily due to replacing an AH66 battalion with an AH64LB battalion. The AH64LB has a fuel usage rate 50 percent higher than the AH66.

Adjustment #3 adds an NLOS company and deletes an AH64 battalion. Fuel usage decreases to 151,000 gallons, which is 18 percent below the Base Case and 16 percent lower than Alternative #2. Almost all of the change was due to removal of the AH64LB battalion, which uses approximately 28,000 gallons.

Thus, since helicopters are the biggest users of fuel, the force package with the fewest helicopters and only one infantry brigade, Adjustment #3, has the lowest fuel requirement. The Base Case alternative, which had all three brigades, had the highest requirement.

d. Water.

Water is a major supply element, particularly in an arid scenario such as EUCOM South. Requirements are dependent on the personnel strength of the force.

Since the Base Case has 15,268 people and water is determined at 11.93 gallons per person per day, the water requirement amounts to 182,000 gallons.

The force package strength of all of the adjustments has approximately the same number of people and, therefore, all of the adjustments have approximately the same water requirements. Adjustment #1 requires 95,000 gallons, Adjustment #2 requires 97,000 gallons, and Adjustment #3 requires 94,000 gallons. These requirements are just over half of the Base Case water requirements.

Therefore, since all three adjustments have fewer people than the Base Case, water requirements for all three adjustments are lower than for the Base Case.

e. Other Supplies.

Requirements for other supplies are also dependent upon the size of the personnel strength. They are based on a factor of 22.09 lbs per person per day.

As with water requirements, the Base Case, because it has the largest number of people, has the greatest requirement for other supplies. It requires 168 short tons per day.

All of the adjusted force packages have approximately the same requirement. Adjustment #1 requires 88 short tons, Adjustment #2 requires 90 short tons, and Adjustment #3 requires 87 short tons.

As a result, there is no appreciable difference in sustainment for other supplies among the three force adjustment packages.

C. MIDDLEWEIGHT FORCE PACKAGES.

1. CSS FORCE STRUCTURE.

a. Base Case.

The CSS force structure for the Middleweight Base Case (Figure 3) consists of two FSBs and a MSB in the division, a CSG, and an aviation maintenance battalion for a total of 5751 CSS personnel (Table 9). Modular elements in the CSG were designed with the minimum personnel and resources to provide a rapidly deployable CSS capability to the early entry force package. The total CSS strength is 31 percent of the overall force structure and, therefore, exceeds the constraints of the study EEA 4.1B, which requires the CSS force structure to be less than 25 percent of the Middleweight force.

The CSG is comprised of modular elements from the MCC, finance and personnel, in addition to two corps support battalions and two medical battalions. The CSG also contains a combat support hospital, which is required for a force of this size. The two corps support battalions contain five transportation companies. Of these, three are HET companies, the other two are Palletized Load System (PLS) companies. The HET companies transport weapons and equipment for the heavy brigade, which improves the brigade's mobility.

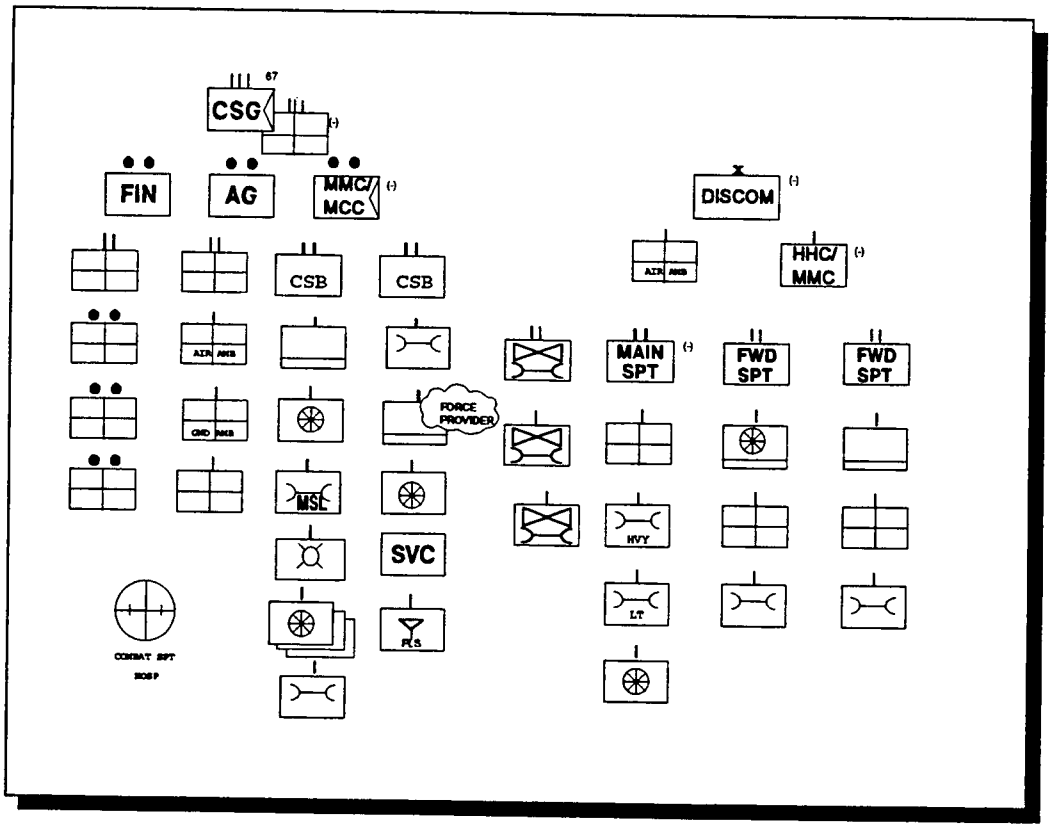

Figure 3. CSS Middleweight Base Case Force Structure

b Adjustment #1. Adjustment #1 removes one Light Infantry Battalion and reduces aviation assets by two companies and one troop (Table 5). Removal of the Light Infantry Battalion results in a reduction in the size of both the supporting Forward Support and Main Support Battalions, and also a reduction in corps transportation (Table 9). The reduced aviation adjustment results in a reduction in the size of the supporting aviation maintenance battalion. The adjusted CSS force structure is 29 percent of the total force, which also exceeds the 25 percent study constraint. However, it was 20 percent smaller in terms of the number of people than the Base Case. The reason for the increase in percentage is that the corps support slice remains basically the same. Thus the number of CSS personnel in the force package does not decrease proportionally to the combat reductions.

c Adjustment #2. This adjustment removes the AGS Battalion. This reduction in force is not large enough to have more than a minor impact on the CSS force structure. Ammunition support is reduced by a modular element consisting of ten ammunition handlers (Table 9). The adjusted CSS force structure is 30 percent of the total force, which again exceeds the 25 percent study constraint. However, Adjustment #2 is also twenty percent smaller, in terms of the number of people, than the Base Case.

Table 9. CSS Middleweight Personnel Strengths.

	BASE CASE	ADJ #1	ADJ #2
MAINTENANCE			
AVIATION	683	570	570
GROUND	504	504	504
MISSILE	144	108	108
AMMO	184	150	140
MEDICAL	906	906	906
TRANSPORTATION	956	657	657
BULK FUEL	177	118	118
SUPPLY & SERVICES	394	215	215
CSG/HHC	213	213	213
DISCOM HHC/MMC	98	65	65
MSB	540	340	340
FSB	952	750	750
TOTAL CSS PERSONNEL	5,751	4,596	4,586
TOTAL PERSONNEL	18,473	15,966	15,414
CSS PERCENTAGE	31	29	30

2. TOTAL FORCE SUSTAINMENT REQUIREMENTS.

a. Discussion. Sustainment requirements for the Middleweight Force Packages are presented in terms of ammunition, fuel, water and other supplies. Table 10 displays total requirements for each of the force packages.

Table 10. Middleweight Daily Sustainment.

SUSTAINMENT AREA	BASE CASE	ADJ #1	ADJ #2
AMMO (STONS)	1,848	1,784	1,742
FUEL (GALS)	438,000	397,000	389,000
WATER (GALS)	220,000	190,000	184,000
OTHER (STONS)	204	176	170

b. Ammunition.

Ammunition usage for the Base Case is 1848 short tons. Of this total usage, artillery fires 71 percent, armor and mechanized units 16 percent, helicopters seven percent, and the remaining six percent is spread among the other combat units and CSS units.

Deletion of the Light Infantry Battalion, two attack helicopter companies and a Recon troop reduces the ammunition requirement for Adjustment #1 by four percent or 64 short tons to a total of 1784 short tons. Since the deleted units are light infantry and aviation, they do not have a large impact on total ammunition usage. The greatest reduction, 50 short tons, is for the 105mm artillery battery supporting the deleted infantry battalion.

When the Armored Gun System battalion is removed to configure Adjustment #2, ammunition usage drops by a further two percent or 42 short tons to 1742 short tons.

The net result of both these force package adjustments is a six percent reduction from the Base Case. Since artillery is not affected by the changes, and artillery accounts for about 70 percent of the ammunition usage in this force, the net reduction is not substantial.

c. Fuel. Fuel usage for the Base Case is 438,000 gallons, of which helicopters use 44 percent or 191,000 gallons. Approximately half of the helicopter usage, 90,000 gallons, is attributable to the assault helicopters, UH60s.

Deletion of the Light Infantry Battalion, two attack helicopter companies and a Recon troop reduces fuel usage for Adjustment #1 by nine percent or 41,000 gallons to a total of 397,000 gallons. Helicopters accounted for 39,000 of the 41,000 gallon reduction, the Light Infantry Battalion only 2,000 gallons.

When the Armored Gun System battalion is removed to configure Adjustment #2, fuel usage drops by 8,000 gallons to 389,000 gallons, which is two percent lower than Adjustment #1 and 11 percent lower than the Base Case.

Thus, adding or deleting helicopters to a force package has the greatest impact on fuel usage. There is, therefore, little difference in fuel requirements between the two force package adjustments since only an AGS battalion is deleted from Adjustment #1 to develop Adjustment #2.

d. Water.

Since the Base Case has 18,473 people and water is determined at 11.93 gallons per person per day, the water requirement amounts to 220,000 gallons. Adjustment #1 has 15,966 people with a water requirement of 190,000 gallons, which is a reduction of 14 percent. Adjustment #2 has 15,414 people with a requirement for 184,000 gallons, which is an additional two percent reduction for a net of 16 percent below the Base Case.

As a result, water requirements for both force adjustment packages are very similar and both require less than the base case.

e. Other Supplies

Requirements for other supplies are also dependent upon the size of the personnel strength. They are based on a factor of 22.09 lbs per person per day.

As with water requirements, the Base Case, because it has the largest number of people, has the greatest requirement for other supplies. It requires 204 short tons per day.

Both of the adjusted force packages have approximately the same requirement. Adjustment #1 requires 176 short tons, while Adjustment #2 requires 170 short tons.

Therefore, since the personnel strengths in both force adjustment packages are similar, it follows that requirements for other supplies are similar. However, both adjustments have requirements 14 and 17 percent, respectively, lower than the Base Case.

IV. CONCLUSIONS

1. The Base Case is the only Lightweight force package where the CSS force structure meets the 25 percent study constraint.

2. Reducing the Lightweight Base Case by two infantry brigades also reduces CSS personnel requirements. However, since the corps support is already at a minimum in the Base Case, and is, therefore, not reduced for the adjustments, the CSS percentage of the total force increases slightly. CSS personnel contribute 27, 26, and 26 percent of the total force strength in Adjustments #1, #2, and #3 respectively.

3. The CSS force personnel strength does not meet the 25 percent criterion in any of the Middleweight force packages. The Base Case CSS is 31 percent, with Adjustment #1 at 29 percent, and Adjustment #2 at 30 percent. One reason for a higher percentage of CSS in the Middleweight force is the increased transportation capability. The heavy weapons in this type of force require HETs for mobility.

4. There is no substantial difference in sustainment requirements among the Lightweight adjusted force packages. All three have requirements substantially lower than the Base Case.

5. There is no substantial difference in sustainment requirements between the two Middleweight adjusted force packages. Both have requirements lower than the Base Case.

V. REFERENCES

1. Draft 13.5, Early Entry Lethality and Survivability (EELS) Battle Dynamic Operations Concept, 4 January 1993.

2. Study plan for Early Entry Force Analysis, TRADOC Analysis Center - Studies and Analysis Center (SAC), Fort Leavenworth, Kansas, January 1994.

3. 10K Force Analysis, Final Report, TRADOC Analysis Center - Studies and Analysis Center (SAC), Fort Leavenworth, Kansas, June 1993.

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APPENDIX E

DEPLOYMENT ANALYSIS

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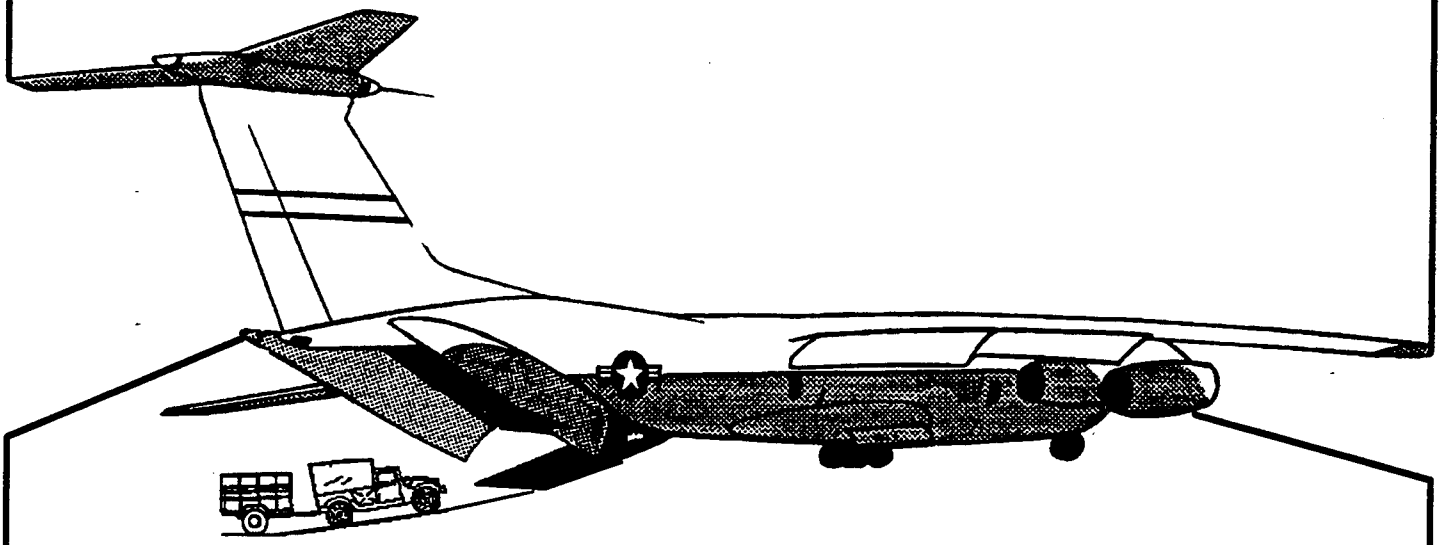
EARLY ENTRY FORCE DEPLOYABILITY ANALYSIS



SEPTEMBER 1994

MILITARY TRAFFIC MANAGEMENT COMMAND
TRANSPORTATION ENGINEERING AGENCY
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AIR MOBILITY COMMAND
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402 SCOTT DRIVE, UNIT 3L3
SCOTT AIR FORCE BASE, IL 62225-5307

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EARLY ENTRY FORCE DEPLOYABILITY ANALYSIS

September 1994

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720 THIMBLE SHOALS BOULEVARD - SUITE 130
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EXECUTIVE SUMMARY

The Military Traffic Management Command Transportation Engineering Agency (MTMCTEA) was tasked by the TRADOC Analysis Center, Studies and Analysis Center (TRAC-SAC), in support of the Early Entry Lethality and Survivability (EELS) Battle Lab, to analyze the deployability of light and middleweight forces. The objective of these force designs is to create highly lethal, survivable, and deployable forces by optimizing the trade-offs between these attributes.

The main objective of this analysis is to show how fast the forces' combat power can be delivered to European Command (EUCOM) South within a joint deployment and to compare the impact of future weapon systems on the deployability of the force. The analysis examines the airlift assets (C-5 and C-141) and time required to deploy the light and middleweight base cases and adjusted force designs to improve deployability. The lightweight force was adjusted three times; the middleweight force, two times. C-5 and C-141 planeloads required to transport each force were generated using MTMCTEA's Transportability Analysis Reports Generator (TARGET) model. Using the Air Mobility Command's (AMC) Mobility Analysis Support System (MASS) model, we estimated the day-by-day closure profile of each force and adjustments with the Army receiving approximately 37%, 47%, and 57% of available throughput to destination aerial ports of debarkation (APODs). Force structures and equipment are projected to 2001.

TABLE 1
SUMMARY OF ANALYSIS

Force Design	Lift Required (Planeloads) C-5/C-141	Force Closure (days) 844 STON/day	1085 STON/day	1326 STON/day
Lightweight Force				
Base Case	37/1,264	33	26	21
Adjustment 1	38/ 776	22	18	14
Adjustment 2	42/ 837	24	19	16
Adjustment 3	37/ 805	23	18	15
Middleweight Force				
Base Case	87/1,017	32	25	20
Adjustment 1	79/ 970	30	24	19
Adjustment 2	78/ 874	28	22	18

A. CONCLUSIONS.

1. In terms of airlift requirements, the lightweight base case force could be airlifted in 1,264 C-141 and 37 C-5 planeloads. Closure at the APOD was estimated at C+26 for the base case force using the MASS model results of 47% Army share of the total average daily airlift (first 30 days).

2. For the lightweight force adjustments, there was no significant savings in C-5 requirements as compared to the base case; however, C-141 requirements were reduced by 30 to 40%. Given 47% airlift, lightweight force adjustments 1 and 3 close by C+18, an eight-day improvement over the base case.

3. The middleweight base case force requires 1,017 C-141 and 87 C-5 planeloads for airlift. Given the 47% share of airlift, the base case force closed at C+25.

4. For the middleweight force adjustments, the C-5 requirement decreased by less than 10 planeloads from the base case. C-141 requirements decreased from the base case by 5% for adjustment 1 and by 14% for adjustment 2. Given 47% airlift, middleweight force adjustment 2 closes by C+22, a three-day improvement over the base case.

5. A 10% increase in the Army share of airlift produces, on average, a 3.5-day improvement in closure of the lightweight force designs and a 4.5-day improvement in closure of the middleweight force designs.

6. A 10% decrease in the Army share of airlift produces, on average, a 5-day degradation in closure of the lightweight force designs and a 6-day degradation in closure of the middleweight force designs.

7. MASS' prediction of the Army's first 30 day average share of airlift of 47% is reasonably consistent with the 10K force study value of 44%.[1]

B. RECOMMENDATIONS.

The EELS Battle Lab should:

1. Recommend the lightweight adjustment 1 and middleweight adjustment 2 force designs as they are the most rapidly deployable.

2. Preposition equipment when possible to minimize use of strategic airlift.

3. Recommend further analysis using C-17 aircraft to increase throughput and decrease closure time of early entry forces.

4. Recommend initiation of discussion in joint community (Commanders in Chief (CINCs), Joint Staff, Joint Warfare Center, and United States Transportation Command (USTRANSCOM)) regarding the allocation of airlift among the Services to the supported CINC who deploys a highly lethal early entry joint force.

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[1] *10K Force Deployability Analysis*, MTMCTEA Report BL 93-2, Aug 93, p. 14.

I. INTRODUCTION

A. BACKGROUND

To comply with the National Military Strategy (NMS), the Army must possess the capability to rapidly deploy and insert "first to fight" forces. The future Army must be able to conduct early entry operations with tailored armored, light, and special operations forces that are more lethal, survivable, and deployable. The Early Entry, Lethality, and Survivability (EELS) Battle Lab designed a light, early entry force consisting of a quick-response brigade-size force (referred to as a 2K force) and a follow-on force somewhat smaller than a division (referred to as a 10K force) as part of the 2K-10K Force Analysis studies. The TRADOC Analysis Center (TRAC) supported these studies by analyzing the lethality, survivability, and sustainability of various 2K and 10K force designs in scenarios simulating a variety of threat forces and environments. MTMCTEA conducted deployability analyses which were integrated into the studies.[2] The results from these studies provided the direction for the Early Entry Force Analysis.

MTMCTEA was tasked by TRAC, Studies and Analysis Center (TRAC-SAC), in support of the EELS Battle Lab, to analyze the deployability of a lightweight force and a middleweight foree as well as adjustments to each. The objective of these force designs is to be highly lethal, survivable, deployable, tactically mobile, and sustainable.[3] The forces were originally named to reflect their lethality, not actual weight. To improve this study, MTMCTEA and AMC jointly conducted the deployability analysis of the early entry force designs.

B. PURPOSE

This analysis examines the lift assets and total time required to deploy the lightweight and middleweight force designs. The results will provide TRADOC decision makers force design alternatives in terms of quantified deployment data, specifically, required airlift assets and closure times (profiles).

C. SCOPE

The deployment includes movement of the forces from CONUS origins through air ports of embarkation (APOEs) to EUCOM South APODs. Force structures and equipment are projected to 2001. A combination of current and future weapon systems and strategic airlift assets are considered.

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2 *Early Entry Analysis: Division Ready Brigade (DRB)*, TRAC-WSMR-TR-93-021, Jun 93, and *10K Force Deployability Analysis*, MTMCTEA Report BL 93-2, Aug 93.

3 Early Entry Force Analysis Study Plan, TRAC-SP-0194, Jan 94.

II. METHODOLOGY

A. GENERAL

An initial deployment analysis was conducted for the lightweight and the middleweight base case forces. Exploratory analyses were performed by TRAC-SAC using a design-model-design concept. The base case forces were adjusted to improve lethality, survivability, deployability, sustainability, and tactical mobility, and then the new force designs were analyzed.

B. AUTOMATED ANALYTICAL TOOLS

1. TARGET. MTMCTEA's Transportability Analysis Reports Generator (TARGET), a unit deployability model developed in ORACLE and C languages, can determine the unit deployment data required for strategic mobility planning. TARGET provides an automated method to merge unit equipment authorization data from TRADOC's Table of Organization and Equipment (TOE) Master File with the Equipment item data from FORSCOM's Computerized Movement Planning and Status System (COMPASS) Equipment Characteristics File (ECF). MTMCTEA analysts used TARGET to generate unit deployment data (vehicle quantity, square feet, short tons (STON)) and airlift requirements (C-5 and C-141) for the lightweight and middleweight force designs. TARGET's air loading module algorithm loads equipment that will not fit on smaller aircraft on C-5s, then fills the remaining space in those aircraft with smaller equipment to ensure efficient C-5 utilization. Remaining equipment is then loaded on C-141s. If, however, no equipment requires C-5s, then none are used. C-17 airlift requirements were not estimated as the study sponsor sought primarily to compare airlift requirements of the adjustments relative to the base cases. The TOE Master File and ECF data bases used were current as of October 1993.

2. MASS. The primary tool used by AMC's Studies and Analysis Flight to examine air mobility operations is Mobility Analysis Support System (MASS). MASS is a large, global airlift simulation model written in FORTRAN and used for evaluating airlift throughput in a wartime scenario. MASS is a requirements driven model that plans missions deterministically and executes stochastically. Inputs to the MASS model include a Joint time-phased force deployment list (TPFDL) of airlift movement requirements. Also input are an airlift network of onloads, offloads, en route stops, recovery bases, and home stations connected by user-defined routes and an airlift fleet mix of different aircraft types identified by individual tail numbers. The airlift assets used to model the flow are projected to reflect a 2001 fleet based on the DOD Mobility Requirements Study (MRS) (Volume I, Jan 92). These include C-17, C-5, C-141, and numerous types of commercial aircraft. The MASS model was used to estimate the early entry force closure profiles.

C. ASSUMPTIONS

1. ECF used will be representative of the 2001 systems analyzed.

2. TPFDL used will be representative of an early entry operation.

3. MASS' predicted Army share of airlift will be representative of a realistic deployment.

D. MODEL OUTPUT

TARGET provides deployment data (personnel, square feet, and STON) and aircraft requirements (C-5 and C-141 planeloads) that quantify strategic mobility requirements. MTMCTEA analysts can compare the deployment data of each base case and adjustment to help determine the most deployable force designs.

MASS provides cargo status in terms of total tons delivered, tons per day throughput, unit and force closure, actual million ton-miles per day flown, and cargo remaining in a backlog status. Given that the forces will be used for early entry, for this analysis MASS will be used to predict the first 30 days of airlift into destination APODs. The first 30 days of airlift capability are allocated among the Services. Since this early entry force will be substituted for the early arriving Army units in the TPFDL and fluctuations in requirements can drive throughput values, we will analyze closure of the lightweight and middleweight force using the MASS predicted first 30 day average Army percent of airlift (STON/day) throughput, as well as plus and minus ten percent. Force closure (days) will then be calculated using the STON for each of the force designs divided by the throughput factor.

III. ANALYSIS

A. FORCE DESIGN AND DEPLOYMENT DATA

The EELS Battle Lab provided the force designs. The lightweight force is a tailored division designed to be similar to an airborne division with the addition of an MLRS battery, AGS battalion, and a Marine Expeditionary Force-Forward. The Marine Expeditionary Force is not included in the deployability analysis since it will arrive separately by sea. The lightweight force is listed at Table 2 in deployment priority order.

TABLE 2
LIGHTWEIGHT BASE CASE FORCE

Unit SRC	Unit Description
57042L000	HHC, BDE
07035L000	3 INF BN (ABN)
06705L000	FA BN 105MM T (AASLT)
44137L100	ADA BTRY V/S ABN
05027L000	ENGR CO, ENGR BN, ABN DIV
34266L000	HQ, HQ OP CO MI
19313L000	MP PLT (PLT HQ + 3 SQDS)
11067L000	AREA SIG CO, MSE
63255L000	FSB ABN DIV
57004L000	HHC, AIRBORNE DIV (-)
01042A000	HHC, AVN BDE (-)
01045A000	AVN BN (MED LIFT) (UH-60)
17207L000	CAV TROOP (GROUND)
57042L000	HHC, BDE
07035L000	3 INF BN (ABN)
06705L000	FA BN 105MM T (AASLT)
44137L100	ADA BTRY V/S ABN
05027L000	ENGR CO, ENGR BN, ABN DIV
34268L000	INTEL & SURVL CO
19313L000	MP PLT (PLT HQ + 3 SQDS)
11068L000	SIG SPT CO, MSE
63255L000	FSB ABN DIV
17275L000	LIGHT ARMOR BN (AGS)
01042A000	HHC, AVN BDE (-)
01085A000	AVN BN (ATK) (OH-58D)
01066A000	HHC, AVN BN (ATK) (OH-58D)
01069A000	AVN UNIT MAINT TRP (OH-58D)
10367A200	3 AIR RECON TROOP(OH-58D)
63252L000	HHC/MMC, SPT CMD, ABN DIV(-)

TABLE 2 (cont.)
LIGHTWEIGHT BASE CASE FORCE

Unit SRC	Unit Description
63266L000	HQ & SUP CO, MSB, ABN DIV
43257L000	LT MAINT CO MSB (ABN)
43258L000	HVY MAINT CO MSB (ABN)
55158L000	TMT CO MSB ABN DIV
01973L200	AVN MAINT CO, ABN (AH-64)
57042L000	HHC, BDE
07035L000	3 INF BN (ABN)
06705L000	FA BN 105MM T (AASLT)
44137L100	ADA BN V/S ABN
05027L000	ENGR CO, ENGR BN, ABN DIV
34267L000	C & J CO MI BN ABN DIV
19313L000	MP PLT (PLT HQ + 3 SQDS)
11067L000	AREA SIG CO, MSE
63255L000	FSB ABN DIV
01385L200	AVN BN (ATK) (AH-64)
63252L000	HHC/MMC, SPT CMD, ABN DIV(-)
08267L000	MED CO, MSB, ABN DIV
10337L000	QM AD EQ & SPT CO, ABN DIV
57004L000	HHC, AIRBORNE DIV (-)
12113L000	DIVISION & ARMY BAND (DS)
11066L000	HHC, DIV SIG BN, MSE
19313L000	MP CO (-) (PMO & CO HQ)
06202L000	HHB DIVARTY (ABN)
06413L000	CORPS TGT ACQ DETACHMENT
06398L000	FA BTRY MLRS
44136L100	HHB, ADA BN ABN DIV
05026L000	HHC, ENGR BN, ABN DIV
07209L000	LRS DET MI BN ABN DIV
34269L000	SVC SPT CO MI BN ABN DIV
03057L000	CHEM CO (SMK/DECON) ABN/AA

The middleweight force, a variation of the 10K, is also called 10K prime (10K') and includes a balanced heavy brigade (Heavy Brigade Afloat). The heavy brigade is not included in the deployment force analyzed since it will arrive separately by sea. The middleweight base case force is listed at Table 3 in deployment priority order. The prepositioned Heavy Brigade Afloat (prepo) units are shown in Table 4. The middleweight base case force includes future weapon systems such as the Armored Gun System (AGS), Comanche and Apache Longbow helicopters, Corps Surface-to-Air Missile (Corps SAM) system, line-of-sight antitank (LOSAT), and non-line-of-sight antitank (NLOS-AT).

TABLE 3
MIDDLEWEIGHT BASE CASE FORCE

Unit SRC	Unit Description
07035L000	INF BN (ABN)
06207L000	FA BTRY 105MM T
57042L000	HHC, BDE
07035L000	INF BN (ABN)
06207L000	FA BTRY 105MM T
06206L000	HHB, FA BTRY 105MM T
	NLOS COMPANY
05027L000	ENGR CO, ENGR BN, ABN DIV
	LOSAT COMPANY
44437L000	ADA BTRY, AVENGER
06207L000	FA BTRY 105MM (ABN)
01267L300	3 AIR RECON TROOPS
	FA BTRY, HIMARS
01069L200	AVUM
08058L100	MED COMPANY (FSB)
17207L000	CAV TROOP (GROUND)
01045A000	ASSAULT BN
57004L000	HHC, ABN DIV
34265L000	MI BN ABN DIV
11065L000	SIG BN
03057L000	CHEM CO ABN (-)
17275L000	LIGHT ARMOR BN (AGS)
19313L000	MP CO ABN (-)
06398L000	FA BTRY MLRS
01055L300	ATK HEL BN (COMANCHE)
44637L000	CORPS SAM BTRY
55580LF00	MVMT CTL TM (AIR TERM)
55817L000	TRANS CARGO TRANSFER CO
	MSB (-)
06413L000	CORPS TARGET ACQ DET
08577LA00	HOSP UNIT, SURG FWD (HUSF)
08909L000	MED LOG SPT DET
08447L200	MED CO, AIR AMBL (UH-60A)
08457L000	MEDICAL COMPANY (AREA)
08449L000	MEDICAL AMBULANCE COMPANY
08446L000	HHD, MED EVAC BN
63433L000	MMC, CORPS SPT CMD (-)
63422L000	CSS AMMO (-)
01427L300	ATS CO (CORPS)

TABLE 3 (cont.)
MIDDLEWEIGHT BASE CASE FORCE

Unit SRC	Unit Description
	HHC, CORPS FOR 10K FORCE
06202L000	HHB DIVARTY (ABN) (-)
01385L200	ATK HEL BN (AH-64LB)
01218A000	COMMAND AVN CO (UH-60)
01066L000	HHT, AIR RECON SQDN
01068L000	ASSLT HEL TRP (UH-60)
01913A300	RAS AMC
01946A000	AMB HHD
01947A300	GS AMC
01948A200	ATK AMC
01953A000	AMC
01973L200	AVN MAINT CO, ABN (AH-64)
01207L000	ASSAULT HEL CO/TRP (UH-60)
43209L000	MAINT CO NON-DIV (DS)
06435L000	FA BN 155MM HOW
08498L000	MED DET, PM (SANITATION)
41718L000	CA DET (DIRECT SUPPORT)
08419L000	MED DET, VET SVC (SMALL)
33708L000	PSYOP TACTICAL COMPANY
03457L000	CHEMICAL COMPANY (CORPS)
08813L000	FIELD HOSPITAL (-)
	CHAPLAIN UNIT FOR 10K FORCE
12427L000	HHD, PERS SVC DET
14423L000	FINANCE DET
08567LA00	MED DET, CMBT STRESS CTL
45423L000	PRESS CAMP HQ

TABLE 4
HEAVY BRIGADE AFLOAT

Unit SRC	Unit Description
87042L100	HHC BRIGADE
07245L400	2 MECH BN
17375L300	2 ARMOR BN
06365L400	ARTY BN (M109A6)
05335L000	ENG BN
44175L200	ADA BN
06398L000	MLRS BTRY
03417L000	CHEM COMPANY

TABLE 4 (cont.)
HEAVY BRIGADE AFLOAT

Unit SRC	Unit Description
19333L000	MP COMPANY
11067L100	AREA SIG COMPANY
63005L200	FSB, HVY DIVISION
55739L100	HET COMPANY

The EELS Battle Lab adjusted the base case force designs to maximize lethality and survivability and to minimize the deployment times and assets required to transport the forces. Table 5 shows the adjustments for the lightweight forces; Table 6 shows the adjustments for the middleweight forces. Each adjustment is based on the adjusted force preceding it.

TABLE 5
LIGHTWEIGHT FORCE ADJUSTMENTS

Adjustment 1	Adjustment 2	Adjustment 3
Delete 2 Inf Bdes & support Delete AGS Bn Add 1 LOSAT Co Replace all OH-58Ds w/AH-66 Replace Hawk w/Corps SAM	Replace AH-66 Atk Bn w/AH-64LB Replace M119 Bn w/ (Light-weight) Bn	Delete 1 AH-64LB Atk Bn Add 1 NLOS Co

TABLE 6
MIDDLEWEIGHT FORCE ADJUSTMENTS

Adjustment 1	Adjustment 2
Delete 1 Inf Bde & support Delete 1 AH-64LB Co Delete 1 AH-66 Atk Co Delete 1 AH-66 Troop Add LT Inf Bn w/105mm Btry	Delete AGS Bn

Table 7 shows the deployment data generated by the TARGET model for the lightweight and middleweight base and adjusted cases. Three days worth of accompanying supplies and small arms ammunition were included with the force. The lightweight base case force proved to be about 19 percent heavier with about 1,000 more personnel than the 2001 projected airborne division structure. However, it includes additional artillery and attack helicopters, and mechanized units to improve lethality and survivability. The middleweight base case force was 15 percent lighter than the previously analyzed 10K technological improvement (TECH IMP) alternative. However, the Heavy Brigade Afloat, a part of the middleweight force is not included since it arrives by sea.

TABLE 7
UNIT DEPLOYMENT DATA SUMMARY

Force Design	Personnel	Square Feet	Total STON
Previous study:			
10K TECH IMP	11,188	784,518	30,769
Current study:			
Lightweight Force			
Base Case	14,204	815,056	27,575
Adjustment 1	7,410	563,334	18,501
Adjustment 2	7,624	590,214	20,049
Adjustment 3	7,385	559,020	19,124
Middleweight Force			
Base Case	9,606	698,470	26,215
Adjustment 1	8,496	645,866	24,966
Adjustment 2	7,955	608,565	22,965

For the purpose of this analysis, the EELS Battle Lab assigned deployment priorities for the lightweight and middleweight forces as was shown in Tables 2 and 3. The priorities for the lightweight force are the first task force, one third of the division HHC, and aviation brigade (-); followed by the second task force, aviation brigade (-), and half of the DISCOM HHC/MMC and MSB; and finally, the third task force, remainder of the aviation brigade, half of the DISCOM HHC/MMC and MSB, and the remainder of the division troops and DIVARTY. The middleweight force's initial priorities are the infantry battalions and field artillery batteries, NLOS company, engineer company, LOSAT company, Avenger battery, air recon troops, and HIMARS battery.

B. SCENARIO

The EELS Battle Lab requested this analysis address deployment to the EUCOM South scenario. The TPFDL used in the analysis was provided by USTRANSCOM and includes all of the joint combat forces, resupply, combat support, combat service support, and ammunition requirements for this scenario. As in all actual deployments, the services compete for the limited transportation assets based on their required delivery dates (RDD) in the TPFDL. For the analysis, we assume that this joint TPFDL is representative of an early entry operation.

C. DEPLOYMENT ANALYSIS

1. General. The analysis compares the base case and adjusted force designs in terms of the number of planeloads required to airlift the force and the time required to close the force at the APOD. Airlift priorities and RDDs are determined by the supported Unified Commander (Commander in Chief, Supreme Allied Commander, Europe (SACEUR) in this study). For this analysis, we assume that the forces are the CINC's first priority for Army airlift and begin arriving in Europe on C+1.

2. Airlift Requirements. MTMCTEA's TARGET air loading module estimated airlift planeloads required for the light and middleweight forces, as shown in Table 8. The lightweight base case force would require approximately 1,264 C-141 and 37 C-5 planeloads for a deployment to Europe. The removal of two infantry brigades and the supporting units along with the AGS battalion in adjustment 1 decreased the C-141 planeloads by 39 percent from the base case. There was little change among adjustments 1, 2, and 3. The middleweight base case force requires approximately 1,017 C-141 and 87 C-5 planeloads. It should be noted that the counts do not include deployment of the middleweight force's prepositioned Heavy Brigade Afloat which arrives by sea. The C-5 requirement decreased by less than 10 planeloads from the base case to the middleweight adjusted forces. The number of C-141 planeloads was reduced by 5% from the base case to adjustment 1, but decreased by 14% from the base case to adjustment 2 with the removal of an AGS battalion.

TABLE 8
AIRLIFT REQUIREMENTS

Force Design	Number of Planeloads C-5	C-141
Lightweight Force		
Base Case	37	1,264
Adjustment 1	38	776
Adjustment 2	42	837
Adjustment 3	37	805
Middleweight Force		
Base Case	87	1,017
Adjustment 1	79	970
Adjustment 2	78	874

3. Force Closure.

a. General. Factors influencing air mobility closure operations include the availability of aircraft, their utilization rates, the available payloads, the robustness of the en route and theater airlift infrastructures (runways, parking ramps, fuel trucks, maintenance capabilities, etc.), crew availability, and the travel distances to the theater. MASS takes these variables into account and applies probabilistic characteristics where appropriate.

b. Airlift Assets. There is uncertainty in the fleet of military airlifters and numerous types of commercial aircraft due to the pending decisions influencing the size of the C-17 procurement and the potential for acquisition of a commercial derivative aircraft to augment the airlift fleet. The C-17 fleet used in the analysis is a "best guess" value based upon the program's projected progress. Table 9 shows the number of aircraft available in the analysis. The aircraft were generated from a reduced availability to the numbers shown in Table 9 through a generation schedule, simulating a "ramping up" of airlift assets. Therefore, the numbers available are not the total aircraft inventory. The total inventory is reduced by the number of backup aircraft in the inventory (BAI), leaving the primary authorized aircraft (PAA) fleet. Not all PAA aircraft are available for the scenario. A portion of each type of aircraft is placed in a withhold status to be available to support missions critical to national security and in addition, a small percentage of available aircraft will have maintenance problems which will limit the number of aircraft a unit will be able to generate on a given day.

TABLE 9
AIRCRAFT AVAILABILITY

Type	Number Available
C-17	46
C-5	95
C-141B	75
Boeing 747M*	28
KC-10	37
Boeing 747 (CRAF**)	57
Boeing 747P (CRAF**)	85
DC-8 (CRAF**)	18

*Military operated commercial derivative
**Civil Reserve Air Fleet

c. Closure Profiles.

The MASS model is used to analyze the transport of assets that can be shipped by air. The model has utilities that scrub the TPFDL data to separate the air transport only or no preference loads that can be shipped by air. Loads from different services and representing different commodity types (i.e. airborne, infantry, combat service support, Air Force support, etc.) are aggregated as necessary to optimize the loading and shipment of assets in the most expeditious manner. In this respect, the model approximates the function of the aerial ports in the real world, mixing loads from various customers to maximize the cargo throughput at the port.

Using the EUCOM South TPFDL, AMC's MASS model estimated the first 30 days of airlift capacity at 2,318 STON/day, of which the fluctuating Army share averaged 1,085 STON/day (47%). We then evaluated closure using 844, 1085 and 1326 STON/day, which are approximately 37%, 47%, and 57% of the total throughput.

Table 10 shows force closure for each of the base cases and adjustments using the three throughput values. Given 47% airlift, the lightweight base case force closes on day C+26; however, adjustments 1 and 3 close on C+18, an eight day improvement. This is due to the removal of two infantry brigades with supporting units and the AGS battalion. Given 57% airlift, the lightweight base case closes on C+21 and adjustments 1 and 3 close on C+14 and C+15, respectively.

Given 47% airlift, the middleweight base case force closes on C+25; adjustment 1 on C+24; and adjustment 2 on C+22, a three day improvement. Given 57% airlift, the middleweight base case closes on C+20 and adjustment 2 closes on C+18. Detailed tables showing the day-by-day arrival of each of the lightweight and middleweight units (at company/battery/troop level) are contained in Appendices A and B, respectively.

TABLE 10
FORCE CLOSURE

	Force Closure (days)		
Force Design	844 STON/day	1,085 STON/day	1,326 STON/day
Lightweight Force			
Base Case	33	26	21
Adjustment 1	22	18	14
Adjustment 2	24	19	16
Adjustment 3	23	18	15
Middleweight Force			
Base Case	32	25	20
Adjustment 1	30	24	19
Adjustment 2	28	22	18

4. Summary of the Analysis.

The EELS Battle Lab provided the force designs, adjustments, and deployment priorities. To maximize lethality and survivability and to minimize the deployment times and assets required to transport the forces, the EELS Battle Lab adjusted the lightweight base case force design three times and the middleweight base case force design two times. MTMCTEA's TARGET model estimated deployability data and airlift (planeloads) required for the light and middleweight forces.

The lightweight base case force, structured similarly to an airborne division, proved to be about 19 percent heavier with about 1,000 more personnel. It includes additional artillery and attack helicopters, and mechanized units to improve lethality and survivability. Also included in the lightweight force, but not analyzed here for deployability, is a Marine Expeditionary Force-Forward. The middleweight base case force, a variation of the previously analyzed 10K force, includes a balanced heavy brigade (Heavy Brigade Afloat) which was not analyzed in terms of deployability since it arrives separately by sea. The base case force, excluding the Heavy Brigade Afloat, is 15 percent lighter than the 10K recommended technological improvement (TECH IMP) alternative force.

The lightweight base case force could be airlifted in 1,264 C-141 and 37 C-5 planeloads. There was little change in C-5 requirements between the base case and all of the adjustments. The removal of two infantry brigades and the supporting units along with the AGS battalion in adjustment 1 decreased the C-141 planeload requirement by 39 percent. The middleweight base case force required 1,017 C-141 and 87 C-5 planeloads. The C-5 requirement decreased by less than 10 planeloads from the base case to the middleweight adjusted forces. The number of C-141 planeloads was reduced by 5% from the base case to adjustment 1, but decreased by 14% from the base case to adjustment 2 with the removal of an AGS battalion.

Using the EUCOM South TPFDL, AMC's MASS model estimated the first 30 days of airlift capacity at 2,318 STON/day, of which the fluctuating Army share averaged 1,085 STON/day (47%). This is consistent with the 44% Army share identified in the previous 10K force deployability analysis. Since fluctuations in requirements can drive throughput values, we analyzed closure of the lightweight and middleweight forces using 844, 1085 and 1326 STON/day, which are approximately 37%, 47%, and 57% of the first 30 day average throughput. For each of the throughput values and in terms of airlift requirements, the most deployable lightweight force design is adjustment 1. The most deployable middleweight force design is adjustment 2. The most deployable force designs are summarized in Table 11.

TABLE 11
MOST DEPLOYABLE FORCES SUMMARY

Force Design	STON	Planeloads C-5/C-141	Days to Close (47% airlift)
Lightweight Force Adjustment 1	18,501	38/776	18
Middleweight Force Adjustment 2	22,965	78/874	22

IV. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

1. In terms of airlift requirements, the lightweight base case force could be airlifted in 1,264 C-141 and 37 C-5 planeloads. Closure at the APOD was estimated at C+26 for the base case force using the MASS model results of 47% Army share of the total average daily airlift (first 30 days).

2. For the lightweight force adjustments, there was no significant savings in C-5 requirements as compared to the base case; however, C-141 requirements were reduced by 30 to 40%. Given 47% airlift, lightweight force adjustments 1 and 3 close by C+18, an eight-day improvement over the base case.

3. The middleweight base case force requires 1,017 C-141 and 87 C-5 planeloads for airlift. Given the 47% share of airlift, the base case force closed at C+25.

4. For the middleweight force adjustments, the C-5 requirement decreased by less than 10 planeloads from the base case. C-141 requirements decreased from the base case by 5% for adjustment 1 and by 14% for adjustment 2. Given 47% airlift, middleweight force adjustment 2 closes by C+22, a three-day improvement over the base case.

5. A 10% increase in the Army share of airlift produces, on average, a 3.5-day improvement in closure of the lightweight force designs and a 4.5-day improvement in closure of the middleweight force designs.

6. A 10% decrease in the Army share of airlift produces, on average, a 5-day degradation in closure of the lightweight force designs and a 6-day degradation in closure of the middleweight force designs.

7. MASS' prediction of the Army's first 30 day average share of airlift of 47% is reasonably consistent with the 10K force study value of 44%.[1]

B. RECOMMENDATIONS

The EELS Battle Lab should:

1. Recommend the lightweight adjustment 1 and middleweight adjustment 2 force designs as they are the most rapidly deployable.

2. Preposition equipment when possible to minimize use of strategic airlift.

3. Recommend further analysis using C-17 aircraft to increase throughput and decrease closure time of early entry forces.

4. Recommend initiation of discussion in joint community (Commanders in Chief (CINCs), Joint Staff, Joint Warfare Center, and United States Transportation Command (USTRANSCOM)) regarding the allocation of airlift among the Services to the supported CINC who deploys a highly lethal early entry joint force.

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APPENDIX A

DAY-BY-DAY CLOSURE PROFILES OF LIGHTWEIGHT FORCE DESIGNS

* Throughout the appendix, the last two positions of some SRCs have been changed for TARGET model use in distinguishing between duplicate SRCs. Also, some SRCs were made up for units that do not exist currently (e.g., LOSAT company, AGS battalion).

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TABLE A-1
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	26.4	{ 21}
			C+ 2	101.8	{ 79}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06706L0T1	HHB FA BN 105MM T (AASLT)	388.1	C+ 2	333.2	{ 86}
			C+ 3	54.9	{ 14}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
44137L1T1	ADA BTRY V/S ABN	190.0	C+ 3	190.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 3	32.9	{ 9}
			C+ 4	338.0	{ 91}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 4	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 4	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 4	64.2	{ 49}
			C+ 5	68.0	{ 51}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 5	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 5	469.4	{ 84}
			C+ 6	86.7	{ 16}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 6	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 6	699.5	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 6	12.2	{ 6}
			C+ 7	178.0	{ 94}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 7	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 7	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 7	248.0	{ 73}
			C+ 8	91.4	{ 27}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 8	339.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+ 8	89.5	{100}
57042L0T2	HHC AIRBORNE BRIGADE	127.8	C+ 8	127.8	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 8	195.9	{ 78}
			C+ 9	53.7	{ 22}

TABLE A-1 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 9	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 9	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 9	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 9	128.2	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 9	249.6	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 9	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 9	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 9	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 9	128.2	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 9	221.9	{ 89}
			C+10	27.7	{ 11}
07037L0T2	RIFLE CO (ABN)	10.4	C+10	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+10	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+10	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+10	128.2	{100}
06706L0T2	HHB FA BN 105MM T (AASLT)	388.1	C+10	388.1	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+10	151.5	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+10	117.3	{ 77}
			C+11	34.2	{ 23}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+11	151.5	{100}
44137L1T2	ADA BTRY V/S ABN	190.0	C+11	190.0	{100}
05027L0T2	ENGR CO, ENGR BN, ABN DIV	111.7	C+11	111.7	{100}
34268L0T2	INTEL&SURVL CO	67.1	C+11	67.1	{100}
19313L0T2	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+11	31.1	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+11	258.4	{ 71}
			C+12	105.9	{ 29}
08268L0T2	MED CO FSB, ABN	132.2	C+12	132.2	{100}
43259L0T2	FWD MAINT CO (ABN)	306.6	C+12	306.6	{100}
63256L0T2	HQ AND SUP CO,FSB, ABN DIV	556.1	C+12	299.3	{ 54}
			C+13	256.8	{ 46}
17276L000	HQ AND HQ COMPANY	876.4	C+13	587.2	{ 67}
			C+14	289.2	{ 33}
17277L000	LT ARMD CO, AGS	281.0	C+14	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+14	273.8	{ 97}
			C+15	7.2	{ 3}
17277L000	LT ARMD CO, AGS	281.0	C+15	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+15	281.0	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+15	144.6	{100}
01086A0B2	HHC, ATTACK BATTALION	169.1	C+15	130.2	{ 77}
			C+16	38.9	{ 23}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+16	40.2	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+16	40.2	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+16	40.2	{100}
01089A0B2	AVN UNIT MAINT CO (OH-58D)	163.3	C+16	163.3	{100}
01066A0B2	HHC, DIV AVN BDE (ABN)	181.6	C+16	181.6	{100}
01069A0B2	AVN UNIT MAINT TRP (OH58D)	163.3	C+16	163.3	{100}

TABLE A-1 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+16	40.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+16	40.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+16	40.3	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+16	55.4	{ 36}
			C+17	99.2	{ 64}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+17	694.7	{100}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+17	50.1	{ 11}
			C+18	396.1	{ 89}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+18	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+18	120.6	{ 21}
			C+19	459.8	{ 79}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+19	384.2	{ 44}
			C+20	491.6	{ 56}
57042L0T3	HHC AIRBORNE BRIGADE	127.8	C+20	127.8	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+20	224.6	{ 90}
			C+21	25.0	{ 10}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+21	128.2	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+21	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+21	128.2	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+21	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+21	1.0	{ 10}
			C+22	9.4	{ 90}
07037L0T3	RIFLE CO (ABN)	10.4	C+22	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+22	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+22	128.2	{100}
06706L0T3	HHB FA BN 105MM T (AASLT)	388.1	C+22	388.1	{100}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+22	151.5	{100}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+22	146.0	{ 96}
			C+23	5.5	{ 4}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+23	151.5	{100}
44137L1T3	ADA BTRY V/S ABN	190.0	C+23	190.0	{100}
05027L0T3	ENGR CO, ENGR BN, ABN DIV	111.7	C+23	111.7	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+23	111.9	{100}
19313L0T3	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+23	31.1	{100}
11067L0T3	AREA SIG CO, MSE	410.7	C+23	242.3	{ 59}
			C+24	168.4	{ 41}
08268L0T3	MED CO FSB, ABN	132.2	C+24	132.2	{100}
43259L0T3	FWD MAINT CO (ABN)	306.6	C+24	306.6	{100}
63256L0T3	HQ & SUP CO, FSB, ABN DIV	556.1	C+24	236.8	{ 43}
			C+25	319.3	{ 57}

TABLE A-1 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+25	524.7	{ 75}
			C+26	179.5	{ 25}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+26	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+26	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+26	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+26	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+26	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+26	150.0	{ 74}
			C+27	51.7	{ 26}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+27	792.3	{ 42}
			C+28	844.0	{ 45}
			C+29	235.1	{ 13}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+29	288.0	{100}
12113L0A3	DIVISION & ARMY BAND (DS)	22.2	C+29	22.2	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+29	298.7	{ 78}
			C+30	83.8	{ 22}
19313L0A3	MP COMPANY AIRBORNE DIV	42.0	C+30	42.0	{100}
06202L0D3	HHB DIVARTY (ABN)	272.6	C+30	272.6	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+30	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+30	294.5	{ 35}
			C+31	540.9	{ 65}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+31	202.0	{100}
05026L0E3	HHC, ENGR BN, ABN DIV	654.0	C+31	101.1	{ 15}
			C+32	552.9	{ 85}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+32	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+32	246.6	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+32	15.0	{ 3}
			C+33	566.8	{ 97}

TABLE A-2
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	139.2	{ 56}
			C+ 2	110.4	{ 44}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06706L0T1	HHB FA BN 105MM T (AASLT)	388.1	C+ 2	388.1	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	124.1	{ 82}
			C+ 3	27.4	{ 18}
44137L1T1	ADA BTRY V/S ABN	190.0	C+ 3	190.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 3	370.9	{100}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 3	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 3	353.9	{ 86}
			C+ 4	56.8	{ 14}
08268L0T1	MED CO FSB, ABN	132.2	C+ 4	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 4	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 4	556.1	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 4	33.3	{ 73}
			C+ 5	12.3	{ 27}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 5	699.5	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 5	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 5	183.0	{ 91}
			C+ 6	18.9	{ 9}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 6	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 6	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 6	339.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+ 6	89.5	{100}
57042L0T2	HHC AIRBORNE BRIGADE	127.8	C+ 6	81.7	{ 64}
			C+ 7	46.1	{ 36}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 7	249.6	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 7	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 7	10.4	{100}

TABLE A-2 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 7	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 7	128.2	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 7	249.6	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 7	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 7	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 7	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 7	128.2	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 7	220.9	{ 89}
			C+ 8	28.7	{ 11}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 8	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 8	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 8	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 8	128.2	{100}
06706L0T2	HHB FA BN 105MM T (AASLT)	388.1	C+ 8	388.1	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+ 8	151.5	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+ 8	151.5	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+ 8	151.5	{100}
44137L1T2	ADA BTRY V/S ABN	190.0	C+ 8	54.3	{ 29}
			C+ 9	135.7	{ 71}
05027L0T2	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 9	111.7	{100}
34268L0T2	INTEL&SURVL CO	67.1	C+ 9	67.1	{100}
19313L0T2	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 9	31.1	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+ 9	364.3	{100}
08268L0T2	MED CO FSB, ABN	132.2	C+ 9	132.2	{100}
43259L0T2	FWD MAINT CO (ABN)	306.6	C+ 9	242.9	{ 79}
			C+10	63.7	{ 21}
63256L0T2	HQ AND SUP CO,FSB, ABN DIV	556.1	C+10	556.1	{100}
17276L000	HQ AND HQ COMPANY	876.4	C+10	465.2	{ 53}
			C+11	411.2	{ 47}
17277L000	LT ARMD CO, AGS	281.0	C+11	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+11	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+11	111.8	{ 40}
			C+12	169.2	{ 60}
17277L000	LT ARMD CO, AGS	281.0	C+12	281.0	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+12	144.6	{100}
01086A0B2	HHC, ATTACK BATTALION	169.1	C+12	169.1	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+12	40.2	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+12	40.2	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+12	40.2	{100}
01089A0B2	AVN UNIT MAINT CO (OH-58D)	163.3	C+12	163.3	{100}
01066A0B2	HHC, DIV AVN BDE (ABN)	181.6	C+12	37.2	{ 20}
			C+13	144.4	{ 80}
01069A0B2	AVN UNIT MAINT TRP (OH58D)	163.3	C+13	163.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+13	40.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+13	40.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+13	40.3	{100}

TABLE A-2 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+13	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+13	501.8	{ 72}
			C+14	192.9	{ 28}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+14	446.2	{100}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+14	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+14	118.6	{ 20}
			C+15	461.8	{ 80}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+15	623.2	{ 71}
			C+16	252.6	{ 29}
57042L0T3	HHC AIRBORNE BRIGADE	127.8	C+16	127.8	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+16	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+16	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+16	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+16	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+16	128.2	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+16	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+16	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+16	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+16	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+16	14.8	{ 12}
			C+17	113.4	{ 88}
07036L0T3	HHC INF BN (ABN)	249.6	C+17	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+17	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+17	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+17	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+17	128.2	{100}
06706L0T3	HHB FA BN 105MM T (AASLT)	388.1	C+17	388.1	{100}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+17	151.5	{100}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+17	23.0	{ 15}
			C+18	128.5	{ 85}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+18	151.5	{100}
44137L1T3	ADA BTRY V/S ABN	190.0	C+18	190.0	{100}
05027L0T3	ENGR CO, ENGR BN, ABN DIV	111.7	C+18	111.7	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+18	111.9	{100}
19313L0T3	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+18	31.1	{100}
11067L0T3	AREA SIG CO, MSE	410.7	C+18	360.3	{ 88}
			C+19	50.4	{ 12}
08268L0T3	MED CO FSB, ABN	132.2	C+19	132.2	{100}
43259L0T3	FWD MAINT CO (ABN)	306.6	C+19	306.6	{100}
63256L0T3	HQ & SUP CO, FSB, ABN DIV	556.1	C+19	556.1	{100}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+19	39.7	{ 6}
			C+20	664.5	{ 94}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+20	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+20	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+20	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+20	157.2	{100}

TABLE A-2 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+20	65.6	{ 41}
			C+21	94.0	{ 59}
08267L0C3	MED CO MSB, ABN	201.7	C+21	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+21	789.3	{ 42}
			C+22	1082.1	{ 58}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+22	2.9	{ 1}
			C+23	285.1	{ 99}
12113L0A3	DIVISION & ARMY BAND (DS)	22.2	C+23	22.2	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+23	382.5	{100}
19313L0A3	MP COMPANY AIRBORNE DIV	42.0	C+23	42.0	{100}
06202L0D3	HHB DIVARTY (ABN)	272.6	C+23	272.6	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+23	80.6	{ 53}
			C+24	70.5	{ 47}
06398L000	FA BTRY MLRS	835.4	C+24	835.4	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+24	179.1	{ 89}
			C+25	22.9	{ 11}
05026L0E3	HHC, ENGR BN, ABN DIV	654.0	C+25	654.0	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+25	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+25	246.6	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+25	132.0	{ 23}
			C+26	449.8	{ 77}

TABLE A-3
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	99.4	{ 78}
			C+ 2	28.8	{ 22}
06706L0T1	HHB FA BN 105MM T (AASLT)	388.1	C+ 2	388.1	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
44137L1T1	ADA BTRY V/S ABN	190.0	C+ 2	190.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 2	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 2	152.9	{ 41}
			C+ 3	218.0	{ 59}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 3	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 3	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 3	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 3	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 3	227.4	{ 41}
			C+ 4	328.7	{ 59}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 4	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 4	699.5	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 4	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 4	62.0	{ 31}
			C+ 5	139.9	{ 69}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 5	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 5	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 5	339.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+ 5	89.5	{100}
57042L0T2	HHC AIRBORNE BRIGADE	127.8	C+ 5	127.8	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 5	73.9	{ 30}
			C+ 6	175.7	{ 70}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}

TABLE A-3 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 6	128.2	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 6	249.6	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 6	128.2	{100}
07036L0T2	HHC INF BN (ABN)	249.6	C+ 6	249.6	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07037L0T2	RIFLE CO (ABN)	10.4	C+ 6	10.4	{100}
07038L0T2	ANTIARMOR COMPANY	128.2	C+ 6	128.2	{100}
06706L0T2	HHB FA BN 105MM T (AASLT)	388.1	C+ 6	172.9	{ 45}
			C+ 7	215.2	{ 55}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+ 7	151.5	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+ 7	151.5	{100}
06707L0T2	FA BTRY 105MM T (AASLT)	151.5	C+ 7	151.5	{100}
44137L1T2	ADA BTRY V/S ABN	190.0	C+ 7	190.0	{100}
05027L0T2	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 7	111.7	{100}
34268L0T2	INTEL&SURVL CO	67.1	C+ 7	67.1	{100}
19313L0T2	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 7	31.1	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+ 7	256.4	{ 70}
			C+ 8	107.9	{ 30}
08268L0T2	MED CO FSB, ABN	132.2	C+ 8	132.2	{100}
43259L0T2	FWD MAINT CO (ABN)	306.6	C+ 8	306.6	{100}
63256L0T2	HQ AND SUP CO,FSB, ABN DIV	556.1	C+ 8	556.1	{100}
17276L000	HQ AND HQ COMPANY	876.4	C+ 8	223.2	{ 25}
			C+ 9	653.2	{ 75}
17277L000	LT ARMD CO, AGS	281.0	C+ 9	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 9	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 9	110.8	{ 39}
			C+10	170.2	{ 61}
17277L000	LT ARMD CO, AGS	281.0	C+10	281.0	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+10	144.6	{100}
01086A0B2	HHC, ATTACK BATTALION	169.1	C+10	169.1	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+10	40.2	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+10	40.2	{100}
01087A0B2	ATTACK COMPANY (OH-58D)	40.2	C+10	40.2	{100}
01089A0B2	AVN UNIT MAINT CO (OH-58D)	163.3	C+10	163.3	{100}
01066A0B2	HHC, DIV AVN BDE (ABN)	181.6	C+10	181.6	{100}
01069A0B2	AVN UNIT MAINT TRP (OH58D)	163.3	C+10	95.6	{ 59}
			C+11	67.7	{ 41}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+11	40.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+11	40.3	{100}
01367A2B2	AIR RECON TROOP (OH-58D)	40.3	C+11	40.3	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+11	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+11	694.7	{100}

TABLE A-3 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+11	288.1	{ 65}
			C+12	158.1	{ 35}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+12	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+12	580.4	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+12	260.2	{ 30}
			C+13	615.6	{ 70}
57042L0T3	HHC AIRBORNE BRIGADE	127.8	C+13	127.8	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+13	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+13	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+13	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+13	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+13	128.2	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+13	173.6	{ 70}
			C+14	76.0	{ 30}
07037L0T3	RIFLE CO (ABN)	10.4	C+14	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+14	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+14	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+14	128.2	{100}
07036L0T3	HHC INF BN (ABN)	249.6	C+14	249.6	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+14	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+14	10.4	{100}
07037L0T3	RIFLE CO (ABN)	10.4	C+14	10.4	{100}
07038L0T3	ANTIARMOR COMPANY	128.2	C+14	128.2	{100}
06706L0T3	HHB FA BN 105MM T (AASLT)	388.1	C+14	388.1	{100}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+14	151.5	{100}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+14	142.0	{ 94}
			C+15	9.5	{ 6}
06707L0T3	FA BTRY 105MM T (AASLT)	151.5	C+15	151.5	{100}
44137L1T3	ADA BTRY V/S ABN	190.0	C+15	190.0	{100}
05027L0T3	ENGR CO, ENGR BN, ABN DIV	111.7	C+15	111.7	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+15	111.9	{100}
19313L0T3	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+15	31.1	{100}
11067L0T3	AREA SIG CO, MSE	410.7	C+15	410.7	{100}
08268L0T3	MED CO FSB, ABN	132.2	C+15	132.2	{100}
43259L0T3	FWD MAINT CO (ABN)	306.6	C+15	177.4	{ 58}
			C+16	129.2	{ 42}
63256L0T3	HQ & SUP CO, FSB, ABN DIV	556.1	C+16	556.1	{100}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+16	640.7	{ 91}
			C+17	63.5	{ 9}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+17	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+17	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+17	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+17	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+17	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+17	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+17	546.3	{ 29}

TABLE A-3 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
10337L0C3	QM AD EQ &SPT CO ABN DIV(CONT)		C+18	1325.1	{ 71}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+18	.9	{ 0}
			C+19	287.1	{100}
12113L0A3	DIVISION & ARMY BAND (DS)	22.2	C+19	22.2	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+19	382.5	{100}
19313L0A3	MP COMPANY AIRBORNE DIV	42.0	C+19	42.0	{100}
06202L0D3	HHB DIVARTY (ABN)	272.6	C+19	272.6	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+19	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+19	168.5	{ 20}
			C+20	666.9	{ 80}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+20	202.0	{100}
05026L0E3	HHC, ENGR BN, ABN DIV	654.0	C+20	457.1	{ 70}
			C+21	196.9	{ 30}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+21	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+21	246.6	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+21	581.8	{100}

TABLE A-4
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	26.4	{ 21}
			C+ 2	101.8	{ 79}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	98.9	{ 77}
			C+ 3	29.3	{ 23}
06706L0T1	HHB FA BN 105MM T (AASLT)	388.1	C+ 3	388.1	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	123.6	{ 82}
			C+ 4	27.9	{ 18}
44437L000	ADA BTRY, AVENGER	201.0	C+ 4	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 4	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 4	370.9	{100}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 4	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 4	101.4	{ 25}
			C+ 5	309.3	{ 75}
08268L0T1	MED CO FSB, ABN	132.2	C+ 5	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 5	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 5	95.9	{ 17}
			C+ 6	460.2	{ 83}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 6	383.8	{ 72}
			C+ 7	149.8	{ 28}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 7	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 7	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 7	446.6	{ 64}
			C+ 8	252.9	{ 36}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 8	154.6	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 8	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 8	50.8	{ 28}

TABLE A-4 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01068L000	ASSAULT HEL TROOP (UH-60) (CONT)		C+ 9	132.8	{ 72}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 9	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 9	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 9	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 9	103.0	{ 30}
			C+10	236.4	{ 70}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+10	339.4	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+10	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+10	113.6	{ 16}
			C+11	581.1	{ 84}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+11	262.9	{ 59}
			C+12	183.3	{ 41}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+12	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+12	333.4	{ 57}
			C+13	247.0	{ 43}
17207L0B1	CAV TRP (GROUND)	89.5	C+13	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+13	144.6	{100}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+13	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+13	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+13	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+13	11.2	{ 19}
			C+14	46.5	{ 81}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+14	156.8	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+14	640.7	{ 73}
			C+15	235.1	{ 27}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+15	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+15	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+15	399.9	{ 48}
			C+16	435.5	{ 52}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+16	408.5	{ 58}
			C+17	295.7	{ 42}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+17	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+17	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+17	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+17	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+17	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+17	33.8	{ 17}
			C+18	167.9	{ 83}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+18	676.1	{ 36}
			C+19	844.0	{ 45}
			C+20	351.3	{ 19}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+20	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+20	204.7	{ 54}
			C+21	177.8	{ 46}
11068L0T2	SIG SPT CO, MSE	364.3	C+21	364.3	{100}
19313L0A3	MP (DIV PM OPNS + CO HQ)	42.0	C+21	42.0	{100}

TABLE A-4 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+21	259.9	{ 45}
			C+22	321.9	{ 55}
34268L0T2	INTEL&SURVL CO	67.1	C+22	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+22	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+22	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+22	246.6	{100}

TABLE A-5
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
17277L777	LOSAT CO	362.5	C+ 1	139.2	{ 38}
			C+ 2	223.3	{ 62}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06706L0T1	HHB FA BN 105MM T (AASLT)	388.1	C+ 2	388.1	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	64.6	{ 43}
			C+ 3	86.9	{ 57}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 3	151.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 3	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 3	370.9	{100}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 3	11.5	{ 37}
			C+ 4	19.6	{ 63}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 4	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 4	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 4	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 4	215.9	{ 39}
			C+ 5	340.2	{ 61}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 5	533.6	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 5	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 5	9.2	{ 20}
			C+ 6	36.4	{ 80}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 6	699.5	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 6	154.6	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 6	21.1	{ 10}
			C+ 7	191.2	{ 90}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 7	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 7	190.2	{100}

TABLE A-5 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 7	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 7	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 7	102.0	{ 30}
			C+ 8	237.4	{ 70}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 8	339.4	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+ 8	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+ 8	353.6	{ 51}
			C+ 9	341.1	{ 49}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+ 9	446.2	{100}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+ 9	297.7	{ 91}
			C+10	29.6	{ 9}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+10	580.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+10	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+10	144.6	{100}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+10	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+10	4.6	{ 8}
			C+11	53.1	{ 92}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+11	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+11	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+11	156.8	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+11	759.7	{ 87}
			C+12	116.1	{ 13}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+12	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+12	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+12	759.9	{ 91}
			C+13	75.5	{ 9}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+13	704.2	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+13	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+13	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+13	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+13	107.6	{ 68}
			C+14	49.6	{ 32}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+14	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+14	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+14	674.1	{ 36}
			C+15	1085.0	{ 58}
			C+16	112.3	{ 6}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+16	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+16	382.5	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+16	302.2	{ 83}
			C+17	62.1	{ 17}
19313L0A3	MP (DIV PM OPNS + CO HQ)	42.0	C+17	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+17	581.8	{100}
34268L0T2	INTEL&SURVL CO	67.1	C+17	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+17	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+17	29.5	{100}

TABLE A-5 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+17	190.6	{ 77}
			C+18	56.0	{ 23}

TABLE A-6
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
17277L777	LOSAT CO	362.5	C+ 1	362.5	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	17.7	{ 7}
			C+ 2	231.9	{ 93}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06706L0T1	HHB FA BN 105MM T (AASLT)	388.1	C+ 2	388.1	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 2	151.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 2	92.1	{ 46}
			C+ 3	108.9	{ 54}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 3	370.9	{100}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 3	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 3	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 3	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 3	160.5	{ 52}
			C+ 4	146.1	{ 48}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 4	556.1	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 4	533.6	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 4	90.2	{ 45}
			C+ 5	111.8	{ 55}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 5	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 5	699.5	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 5	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 5	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 5	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 5	154.6	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 5	141.1	{ 66}
			C+ 6	71.2	{ 34}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 6	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 6	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 6	201.9	{100}

TABLE A-6 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 1 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 6	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 6	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 6	123.6	{ 36}
			C+ 7	215.8	{ 64}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+ 7	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+ 7	694.7	{100}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+ 7	260.9	{ 58}
			C+ 8	185.3	{ 42}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+ 8	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+ 8	580.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+ 8	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+ 8	143.5	{ 99}
			C+ 9	1.1	{ 1}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+ 9	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+ 9	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+ 9	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+ 9	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+ 9	156.8	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+ 9	758.7	{ 87}
			C+10	117.1	{ 13}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+10	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+10	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+10	835.4	{100}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+10	164.5	{ 23}
			C+11	539.7	{ 77}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+11	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+11	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+11	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+11	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+11	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+11	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+11	70.1	{ 4}
			C+12	1326.0	{ 71}
			C+13	475.3	{ 25}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+13	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+13	382.5	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+13	180.2	{ 49}
			C+14	184.1	{ 51}
19313L0A3	MP (DIV PM OPNS + CO HQ)	42.0	C+14	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+14	581.8	{100}
34268L0T2	INTEL&SURVL CO	67.1	C+14	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+14	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+14	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+14	246.6	{100}

TABLE A-7
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	26.4	{ 21}
			C+ 2	101.8	{ 79}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	98.9	{ 77}
			C+ 3	29.3	{ 23}
06436L000	HHB, 155MM T, ABN (LIGHT)	197.3	C+ 3	197.3	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	252.0	{ 69}
			C+ 4	113.4	{ 31}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 4	365.4	{100}
06439L000	SVC BTRY, 155MM T, ABN (LI	604.1	C+ 4	365.2	{ 60}
			C+ 5	238.9	{ 40}
44437L000	ADA BTRY, AVENGER	201.0	C+ 5	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 5	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 5	292.4	{ 79}
			C+ 6	78.5	{ 21}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 6	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 6	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 6	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 6	191.5	{ 62}
			C+ 7	115.1	{ 38}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 7	556.1	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 7	172.8	{ 32}
			C+ 8	360.8	{ 68}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 8	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 8	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 8	235.6	{ 34}
			C+ 9	463.9	{ 66}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 9	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 9	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 9	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 9	154.6	{100}

TABLE A-7 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 9	52.1	{ 25}
			C+10	160.2	{ 75}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+10	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+10	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+10	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+10	108.1	{ 50}
			C+11	108.0	{ 50}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+11	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+11	339.4	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+11	57.2	{ 37}
			C+12	97.4	{ 63}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+12	694.7	{100}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+12	51.9	{ 12}
			C+13	394.3	{ 88}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+13	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+13	122.4	{ 21}
			C+14	458.0	{ 79}
17207L0B1	CAV TRP (GROUND)	89.5	C+14	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+14	144.6	{100}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+14	151.9	{ 22}
			C+15	552.3	{ 78}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+15	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+15	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+15	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+15	94.0	{ 60}
			C+16	63.2	{ 40}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+16	780.8	{ 89}
			C+17	95.0	{ 11}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+17	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+17	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+17	540.0	{ 65}
			C+18	295.4	{ 35}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+18	548.6	{ 78}
			C+19	155.6	{ 22}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+19	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+19	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+19	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+19	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+19	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+19	173.9	{ 86}
			C+20	27.8	{ 14}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+20	816.2	{ 44}
			C+21	844.0	{ 45}
			C+22	211.2	{ 11}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+22	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+22	344.8	{ 90}

TABLE A-7 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
11066L0A3	HHC,AIRBORNE DIVISION (CONT)		C+23	37.7	{ 10}
11068L0T2	SIG SPT CO, MSE	364.3	C+23	364.3	{100}
19313L0A3	MP CO (DIV PM OPNS + CO HQ	42.0	C+23	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+23	400.0	{ 69}
			C+24	181.8	{ 31}
34268L0T2	INTEL&SURVL CO	67.1	C+24	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+24	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+24	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+24	246.6	{100}

TABLE A-8
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
17277L777	LOSAT CO	362.5	C+ 1	139.2	{ 38}
			C+ 2	223.3	{ 62}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06436L000	HHB, 155MM T, ABN (LIGHT)	197.3	C+ 2	197.3	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	255.4	{ 70}
			C+ 3	110.0	{ 30}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	365.4	{100}
06439L000	SVC BTRY, 155MM T, ABN (LI	604.1	C+ 3	244.2	{ 40}
			C+ 4	359.9	{ 60}
44437L000	ADA BTRY, AVENGER	201.0	C+ 4	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 4	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 4	370.9	{100}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 4	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 4	10.4	{ 3}
			C+ 5	400.3	{ 97}
08268L0T1	MED CO FSB, ABN	132.2	C+ 5	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 5	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 5	245.9	{ 44}
			C+ 6	310.2	{ 56}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 6	533.6	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 6	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 6	39.2	{ 86}
			C+ 7	6.4	{ 14}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 7	699.5	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 7	154.6	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 7	51.1	{ 24}
			C+ 8	161.2	{ 76}

TABLE A-8 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 8	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 8	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 8	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 8	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 8	132.0	{ 39}
			C+ 9	207.4	{ 61}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 9	339.4	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+ 9	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+ 9	383.6	{ 55}
			C+10	311.1	{ 45}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+10	446.2	{100}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+10	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+10	.4	{ 0}
			C+11	580.0	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+11	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+11	144.6	{100}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+11	270.9	{ 38}
			C+12	433.3	{ 62}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+12	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+12	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+12	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+12	157.2	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+12	296.8	{ 34}
			C+13	579.0	{ 66}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+13	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+13	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+13	297.0	{ 36}
			C+14	538.4	{ 64}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+14	546.6	{ 78}
			C+15	157.6	{ 22}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+15	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+15	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+15	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+15	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+15	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+15	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+15	211.2	{ 11}
			C+16	1085.0	{ 58}
			C+17	575.2	{ 31}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+17	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+17	221.8	{ 58}
			C+18	160.7	{ 42}
11068L0T2	SIG SPT CO, MSE	364.3	C+18	364.3	{100}
19313L0A3	MP CO (DIV PM OPNS + CO HQ	42.0	C+18	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+18	518.0	{ 89}
			C+19	63.8	{ 11}

TABLE A-8 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
34268L0T2	INTEL&SURVL CO	67.1	C+19	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+19	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+19	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+19	246.6	{100}

TABLE A-9
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
17277L777	LOSAT CO	362.5	C+ 1	362.5	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	17.7	{ 7}
			C+ 2	231.9	{ 93}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06436L000	HHB, 155MM T, ABN (LIGHT)	197.3	C+ 2	197.3	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	6.6	{ 2}
			C+ 3	358.8	{ 98}
06439L000	SVC BTRY, 155MM T, ABN (LI	604.1	C+ 3	604.1	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 3	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 3	50.4	{ 14}
			C+ 4	320.5	{ 86}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 4	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 4	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 4	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 4	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 4	124.9	{ 22}
			C+ 5	431.2	{ 78}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 5	533.6	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 5	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 5	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 5	113.6	{ 16}
			C+ 6	585.9	{ 84}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 6	154.6	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 6	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 6	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 6	16.2	{ 9}

TABLE A-9 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01046A0B1	HHC, ASSAULT BN (CONT)		C+ 7	174.0	{ 91}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 7	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 7	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 7	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 7	339.4	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+ 7	55.2	{ 36}
			C+ 8	99.4	{ 64}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+ 8	694.7	{100}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+ 8	446.2	{100}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+ 8	85.7	{ 26}
			C+ 9	241.6	{ 74}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+ 9	580.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+ 9	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+ 9	144.6	{100}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+ 9	269.9	{ 38}
			C+10	434.3	{ 62}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+10	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+10	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+10	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+10	157.2	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+10	536.8	{ 61}
			C+11	339.0	{ 39}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+11	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+11	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+11	778.0	{ 93}
			C+12	57.4	{ 7}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+12	704.2	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+12	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+12	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+12	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+12	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+12	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+12	49.9	{ 25}
			C+13	151.8	{ 75}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+13	1174.2	{ 63}
			C+14	697.2	{ 37}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+14	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+14	340.8	{ 89}
			C+15	41.7	{ 11}
11068L0T2	SIG SPT CO, MSE	364.3	C+15	364.3	{100}
19313L0A3	MP CO (DIV PM OPNS + CO HQ	42.0	C+15	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+15	581.8	{100}
34268L0T2	INTEL&SURVL CO	67.1	C+15	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+15	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+15	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+15	87.7	{ 36}

TABLE A-9 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 2 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
34269L0E3	SVC SPT CO MI BN ABN DIV(CONT)		C+16	158.9	{ 64}

TABLE A-10
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	26.4	{ 21}
			C+ 2	101.8	{ 79}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	98.9	{ 77}
			C+ 3	29.3	{ 23}
06436L000	HHB, 155MM T, ABN (LIGHT)	197.3	C+ 3	197.3	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	252.0	{ 69}
			C+ 4	113.4	{ 31}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 4	365.4	{100}
06439L000	SVC BTRY, 155MM T, ABN (LI	604.1	C+ 4	365.2	{ 60}
			C+ 5	238.9	{ 40}
444444444	ADA BTRY, NLOS	134.5	C+ 5	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 5	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 5	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 5	157.9	{ 43}
			C+ 6	213.0	{ 57}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 6	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 6	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 6	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 6	57.0	{ 19}
			C+ 7	249.6	{ 81}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 7	556.1	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 7	38.3	{ 7}
			C+ 8	495.3	{ 93}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 8	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 8	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 8	101.1	{ 14}
			C+ 9	598.4	{ 86}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 9	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 9	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 9	57.8	{100}

TABLE A-10 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 9	72.2	{ 47}
			C+10	82.4	{ 53}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+10	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+10	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+10	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+10	175.5	{ 87}
			C+11	26.4	{ 13}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+11	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+11	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+11	262.1	{ 77}
			C+12	77.3	{ 23}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+12	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+12	612.1	{ 88}
			C+13	82.6	{ 12}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+13	446.2	{100}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+13	315.2	{ 96}
			C+14	12.1	{ 4}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+14	580.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+14	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+14	144.6	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+14	17.4	{ 2}
			C+15	844.0	{ 96}
			C+16	14.4	{ 2}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+16	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+16	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+16	620.6	{ 74}
			C+17	214.8	{ 26}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+17	629.2	{ 89}
			C+18	75.0	{ 11}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+18	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+18	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+18	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+18	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+18	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+18	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+18	52.8	{ 3}
			C+19	844.0	{ 45}
			C+20	844.0	{ 45}
			C+21	130.6	{ 7}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+21	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+21	382.5	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+21	42.9	{ 12}
			C+22	321.4	{ 88}
19313L0A3	MP CO (DIV PM OPNS + CO HQ	42.0	C+22	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+22	480.6	{ 83}
			C+23	101.2	{ 17}

TABLE A-10 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
34268L0T2	INTEL&SURVL CO	67.1	C+23	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+23	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+23	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+23	246.6	{100}

TABLE A-11
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
17277L777	LOSAT CO	362.5	C+ 1	139.2	{ 38}
			C+ 2	223.3	{ 62}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 2	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06436L000	HHB, 155MM T, ABN (LIGHT)	197.3	C+ 2	197.3	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	255.4	{ 70}
			C+ 3	110.0	{ 30}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 3	365.4	{100}
06439L000	SVC BTRY, 155MM T, ABN (LI	604.1	C+ 3	244.2	{ 40}
			C+ 4	359.9	{ 60}
444444444	ADA BTRY, NLOS	134.5	C+ 4	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 4	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 4	111.7	{100}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 4	277.9	{ 75}
			C+ 5	93.0	{ 25}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 5	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 5	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 5	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 5	306.6	{100}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 5	111.4	{ 20}
			C+ 6	444.7	{ 80}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 6	533.6	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 6	106.7	{ 53}
			C+ 7	95.3	{ 47}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 7	45.6	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 7	699.5	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 7	71.2	{ 46}
			C+ 8	83.4	{ 54}

TABLE A-11 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 8	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 8	183.6	{100}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 8	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 8	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 8	213.6	{ 99}
			C+ 9	2.5	{ 1}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 9	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 9	339.4	{100}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+ 9	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+ 9	249.1	{ 36}
			C+10	445.6	{ 64}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+10	446.2	{100}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+10	193.2	{ 59}
			C+11	134.1	{ 41}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+11	580.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+11	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+11	144.6	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+11	136.4	{ 16}
			C+12	739.4	{ 84}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+12	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+12	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+12	136.6	{ 16}
			C+13	698.8	{ 84}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+13	386.2	{ 55}
			C+14	318.0	{ 45}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+14	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+14	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+14	65.9	{100}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+14	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+14	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+14	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+14	50.8	{ 3}
			C+15	1085.0	{ 58}
			C+16	735.6	{ 39}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+16	288.0	{100}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+16	61.4	{ 16}
			C+17	321.1	{ 84}
11068L0T2	SIG SPT CO, MSE	364.3	C+17	364.3	{100}
19313L0A3	MP CO (DIV PM OPNS + CO HQ	42.0	C+17	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+17	357.6	{ 61}
			C+18	224.2	{ 39}
34268L0T2	INTEL&SURVL CO	67.1	C+18	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+18	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+18	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+18	246.6	{100}

TABLE A-12
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
17277L777	LOSAT CO	362.5	C+ 1	362.5	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	17.7	{ 7}
			C+ 2	231.9	{ 93}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06436L000	HHB, 155MM T, ABN (LIGHT)	197.3	C+ 2	197.3	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	365.4	{100}
06437L000	FA BTRY, 155MM T, ABN(LIGH	365.4	C+ 2	6.6	{ 2}
			C+ 3	358.8	{ 98}
06439L000	SVC BTRY, 155MM T, ABN (LI	604.1	C+ 3	604.1	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 3	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 3	201.0	{100}
05027L0T1	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	27.6	{ 25}
			C+ 4	84.1	{ 75}
34266L0T1	HQ,HQ OP CO MI	370.9	C+ 4	370.9	{100}
19313L0T1	1 MP PLT (PLT HQ + 3 SQDS)	31.1	C+ 4	31.1	{100}
11067L0T1	AREA SIG CO, MSE	410.7	C+ 4	410.7	{100}
08268L0T1	MED CO FSB, ABN	132.2	C+ 4	132.2	{100}
43259L0T1	FWD MAINT CO (ABN)	306.6	C+ 4	297.0	{ 97}
			C+ 5	9.6	{ 3}
63256L0T1	HQ & SUP CO, FSB, ABN DIV	556.1	C+ 5	556.1	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 5	533.6	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+ 5	202.0	{100}
57004L0A1	HHC AIRBORNE DIVISION	45.6	C+ 5	24.7	{ 54}
			C+ 6	20.9	{ 46}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 6	699.5	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 6	154.6	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 6	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 6	65.3	{ 36}

TABLE A-12 (cont.)
AIRLIFT CLOSURE
LIGHTWEIGHT FORCE - ADJ 3 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01068L000	ASSAULT HEL TROOP (UH-60) (CONT)		C+ 7	118.3	{ 64}
01046A0B1	HHC, ASSAULT BN	190.2	C+ 7	190.2	{100}
01049A0B1	AVIATION UNIT MAINT CO	201.9	C+ 7	201.9	{100}
01108A0B1	COMMAND AVN CO (EH/UH-60)	216.1	C+ 7	216.1	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 7	339.4	{100}
01207A2B1	ASSAULT COMPANY (UH-60)	339.4	C+ 7	260.1	{ 77}
			C+ 8	79.3	{ 23}
63252L0C2	HHC/MMC,SPT CMD,ABN DIV	154.6	C+ 8	154.6	{100}
63266L0C2	HQ & SUP CO, MSB, ABN DIV	694.7	C+ 8	694.7	{100}
43257L0C2	LT MAINT CO MSB (ABN)	446.2	C+ 8	397.4	{ 89}
			C+ 9	48.8	{ 11}
43258L0C2	HVY MAINT CO MSB (ABN)	327.3	C+ 9	327.3	{100}
55158L0C2	TMT CO S&T BN ABN DIV	580.4	C+ 9	580.4	{100}
17207L0B1	CAV TRP (GROUND)	89.5	C+ 9	89.5	{100}
01042A0B2	HHC, DIV AVN BDE (ABN)	144.6	C+ 9	144.6	{100}
01973L2C2	AVN MAINT CO, ABN (AH-64)	875.8	C+ 9	135.4	{ 15}
			C+10	740.4	{ 85}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+10	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+10	151.1	{100}
06398L000	FA BTRY MLRS	835.4	C+10	376.6	{ 45}
			C+11	458.8	{ 55}
01386L2B3	HHC, ATTACK HEL BN (AH-64)	704.2	C+11	704.2	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+11	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+11	65.9	{100}
01387L2B3	ATTACK HEL CO (AH-64)	65.9	C+11	31.2	{ 47}
			C+12	34.7	{ 53}
01389L2B3	AVN UNIT MAINT CO (AH-64)	157.2	C+12	157.2	{100}
63252L0C3	HHC/MMC,SPT CMD,ABN DIV	159.6	C+12	159.6	{100}
08267L0C3	MED CO MSB, ABN	201.7	C+12	201.7	{100}
10337L0C3	QM AD EQ &SPT CO ABN DIV	1871.4	C+12	772.8	{ 41}
			C+13	1098.6	{ 59}
57004L0A3	HHC AIRBORNE DIVISION	288.0	C+13	227.4	{ 79}
			C+14	60.6	{ 21}
11066L0A3	HHC, DIV SIG BN, MSE	382.5	C+14	382.5	{100}
11068L0T2	SIG SPT CO, MSE	364.3	C+14	364.3	{100}
19313L0A3	MP CO (DIV PM OPNS + CO HQ	42.0	C+14	42.0	{100}
03057L0E3	CHEM CO (SMK/DECON) ABN/AA	581.8	C+14	476.6	{ 82}
			C+15	105.2	{ 18}
34268L0T2	INTEL&SURVL CO	67.1	C+15	67.1	{100}
34267L0T3	C&J CO MI BN ABN DIV	111.9	C+15	111.9	{100}
07209L0E3	LRS DET MI BN (HVY)	29.5	C+15	29.5	{100}
34269L0E3	SVC SPT CO MI BN ABN DIV	246.6	C+15	246.6	{100}

APPENDIX B

DAY-BY-DAY CLOSURE PROFILES OF MIDDLEWEIGHT FORCE DESIGNS

* Throughout the appendix, the last two positions of some SRCs have been changed for TARGET model use in distinguishing between duplicate SRCs. Also, some SRCs were made up for units that do not exist currently (e.g., LOSAT company, AGS battalion).

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TABLE B-1
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
07036L000	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L000	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 1	129.3	{100}
57042L000	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L000	HHC INF BN (ABN)	249.6	C+ 1	177.9	{ 71}
			C+ 2	71.7	{ 29}
07037L000	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 2	10.4	{100}
07038L000	ANTIARMOR COMPANY	128.2	C+ 2	128.2	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 2	129.3	{100}
06206L000	HHB FA BN 105MM T (ABN)	419.3	C+ 2	419.3	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 2	64.3	{ 48}
			C+ 3	70.2	{ 52}
05027L000	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 3	111.7	{100}
17277L777	LOSAT CO	362.5	C+ 3	362.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 3	201.0	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 3	98.6	{ 76}
			C+ 4	30.7	{ 24}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 4	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 4	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 4	57.8	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 4	639.9	{ 86}
			C+ 5	101.3	{ 14}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 5	154.6	{100}
08058L100	MEDICAL CO (FSB) HVY DIV	346.8	C+ 5	346.8	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 5	89.5	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 5	151.8	{ 80}
			C+ 6	38.4	{ 20}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 6	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 6	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 6	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 6	48.2	{ 14}
			C+ 7	291.2	{ 86}
57004L000	HHC AIRBORNE DIVISION	333.7	C+ 7	333.7	{100}
07209L000	LRS DET MI BN (HVY)	29.5	C+ 7	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+ 7	189.6	{ 51}
			C+ 8	181.3	{ 49}
34267L000	C&J CO MI BN ABN DIV	111.9	C+ 8	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+ 8	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+ 8	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+ 8	237.1	{ 62}
			C+ 9	145.4	{ 38}

TABLE B-1 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
11067L000	AREA SIG CO, MSE	410.7	C+ 9	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+ 9	287.9	{ 70}
			C+10	122.8	{ 30}
11068L000	SIG SPT CO, MSE	364.3	C+10	364.3	{100}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+10	356.9	{ 98}
			C+11	6.2	{ 2}
17276L000	HQ AND HQ COMPANY	876.4	C+11	837.8	{ 96}
			C+12	38.6	{ 4}
17277L000	LT ARMD CO, AGS	281.0	C+12	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+12	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+12	243.4	{ 87}
			C+13	37.6	{ 13}
17277L000	LT ARMD CO, AGS	281.0	C+13	281.0	{100}
19313L000	MP COMPANY AIRBORNE DIV	71.4	C+13	71.4	{100}
06398L000	FA BTRY MLRS	835.4	C+13	454.0	{ 54}
			C+14	381.4	{ 46}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+14	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+14	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+14	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+14	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANCHE)	156.8	C+14	53.2	{ 34}
			C+15	103.6	{ 66}
44637L000	ADA BTRY, CORPS SAM	533.6	C+15	533.6	{100}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+15	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+15	194.7	{ 18}
			C+16	844.0	{ 78}
			C+17	38.6	{ 4}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+17	575.1	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+17	151.1	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+17	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+17	28.0	{ 31}
			C+18	61.4	{ 69}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+18	628.6	{100}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+18	154.0	{ 76}
			C+19	47.5	{ 24}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+19	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+19	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+19	3.0	{100}
63422L000	CSS AMMO	275.7	C+19	275.7	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+19	186.9	{ 96}
			C+20	8.2	{ 4}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+20	136.4	{100}
06202L000	HHB DIVARTY (ABN)	57.5	C+20	57.5	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+20	641.9	{ 91}
			C+21	62.3	{ 9}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+21	78.6	{100}

TABLE B-1 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+21	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+21	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+21	157.2	{100}
01218A000	COMMAND AVN CO (UH-60)	185.7	C+21	185.7	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+21	203.0	{ 96}
			C+22	9.3	{ 4}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+22	183.6	{100}
01913A300	RAS AMC	724.9	C+22	651.1	{ 90}
			C+23	73.8	{ 10}
01946A000	AMB HHD	36.5	C+23	36.5	{100}
01947A300	GS AMC	722.8	C+23	722.8	{100}
01948A200	ATK AMC	723.1	C+23	10.9	{ 2}
			C+24	712.2	{ 98}
01953A000	AMC	727.5	C+24	131.8	{ 18}
			C+25	595.7	{ 82}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+25	248.3	{ 28}
			C+26	627.5	{ 72}
01207L000	ASSAULT HEL CO/TRP (UH-60)	338.9	C+26	216.5	{ 64}
			C+27	122.4	{ 36}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+27	721.6	{ 68}
			C+28	346.2	{ 32}
06436L000	HHB, 155MM T, ABN	134.0	C+28	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+28	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+28	.5	{ 0}
			C+29	362.8	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+29	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+29	117.9	{ 19}
			C+30	506.1	{ 81}
08498L000	MED DET, PM (SANITATION)	13.4	C+30	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+30	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+30	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+30	101.2	{100}
03457L000	CHEMICAL C0 (CORPS)	642.8	C+30	177.7	{ 28}
			C+31	465.1	{ 72}
08813L000	FIELD HOSPITAL (-)	256.3	C+31	256.3	{100}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+31	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+31	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+31	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+31	43.5	{ 81}
			C+32	10.5	{ 19}
45423L000	PRESS CAMP HQ	40.5	C+32	40.5	{100}

TABLE B-2
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
07036L000	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L000	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 1	129.3	{100}
57042L000	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L000	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L000	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 1	9.9	{ 8}
			C+ 2	119.4	{ 92}
06206L000	HHB FA BN 105MM T (ABN)	419.3	C+ 2	419.3	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 2	134.5	{100}
05027L000	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 2	111.7	{100}
17277L777	LOSAT CO	362.5	C+ 2	300.1	{ 83}
			C+ 3	62.4	{ 17}
44437L000	ADA BTRY, AVENGER	201.0	C+ 3	201.0	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 3	129.3	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 3	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 3	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 3	57.8	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 3	518.9	{ 70}
			C+ 4	222.3	{ 30}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 4	154.6	{100}
08058L100	MEDICAL CO (FSB) HVY DIV	346.8	C+ 4	346.8	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 4	89.5	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 4	190.2	{100}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 4	81.6	{ 40}
			C+ 5	120.3	{ 60}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 5	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 5	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 5	339.4	{100}
57004L000	HHC AIRBORNE DIVISION	333.7	C+ 5	69.8	{ 21}
			C+ 6	263.9	{ 79}
07209L000	LRS DET MI BN (HVY)	29.5	C+ 6	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+ 6	370.9	{100}
34267L000	C&J CO MI BN ABN DIV	111.9	C+ 6	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+ 6	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+ 6	241.7	{ 98}
			C+ 7	4.9	{ 2}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+ 7	382.5	{100}
11067L000	AREA SIG CO, MSE	410.7	C+ 7	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+ 7	286.9	{ 70}

TABLE B-2 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
11067L000	AREA SIG CO, MSE (CONT)		C+ 8	123.8	{ 30}
11068L000	SIG SPT CO, MSE	364.3	C+ 8	364.3	{100}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+ 8	363.1	{100}
17276L000	HQ AND HQ COMPANY	876.4	C+ 8	233.8	{ 27}
			C+ 9	642.6	{ 73}
17277L000	LT ARMD CO, AGS	281.0	C+ 9	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 9	161.4	{ 57}
			C+10	119.6	{ 43}
17277L000	LT ARMD CO, AGS	281.0	C+10	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+10	281.0	{100}
19313L000	MP COMPANY AIRBORNE DIV	71.4	C+10	71.4	{100}
06398L000	FA BTRY MLRS	835.4	C+10	332.0	{ 40}
			C+11	503.4	{ 60}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+11	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+11	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+11	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+11	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+11	156.8	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+11	15.4	{ 3}
			C+12	518.2	{ 97}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+12	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+12	554.7	{ 51}
			C+13	522.6	{ 49}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+13	562.4	{ 98}
			C+14	12.7	{ 2}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+14	151.1	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+14	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+14	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+14	628.6	{100}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+14	152.0	{ 75}
			C+15	49.5	{ 25}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+15	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+15	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+15	3.0	{100}
63422L000	CSS AMMO	275.7	C+15	275.7	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+15	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+15	136.4	{100}
06202L000	HHB DIVARTY (ABN)	57.5	C+15	57.5	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+15	36.9	{ 5}
			C+16	667.3	{ 95}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+16	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+16	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+16	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+16	157.2	{100}
01218A000	COMMAND AVN CO (UH-60)	185.7	C+16	24.7	{ 13}
			C+17	161.0	{ 87}

TABLE B-2 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+17	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+17	183.6	{100}
01913A300	RAS AMC	724.9	C+17	528.1	{ 73}
			C+18	196.8	{ 27}
01946A000	AMB HHD	36.5	C+18	36.5	{100}
01947A300	GS AMC	722.8	C+18	722.8	{100}
01948A200	ATK AMC	723.1	C+18	128.9	{ 18}
			C+19	594.2	{ 82}
01953A000	AMC	727.5	C+19	490.8	{ 67}
			C+20	236.7	{ 33}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+20	848.3	{ 97}
			C+21	27.5	{ 3}
01207L000	ASSAULT HEL CO/TRP (UH-60)	338.9	C+21	338.9	{100}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+21	718.6	{ 67}
			C+22	349.2	{ 33}
06436L000	HHB, 155MM T, ABN	134.0	C+22	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+22	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+22	238.5	{ 66}
			C+23	124.8	{ 34}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+23	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+23	596.9	{ 96}
			C+24	27.1	{ 4}
08498L000	MED DET, PM (SANITATION)	13.4	C+24	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+24	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+24	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+24	101.2	{100}
03457L000	CHEMICAL CO (CORPS)	642.8	C+24	642.8	{100}
08813L000	FIELD HOSPITAL (-)	256.3	C+24	254.9	{ 99}
			C+25	1.4	{ 1}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+25	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+25	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+25	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+25	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+25	40.5	{100}

TABLE B-3
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
07036L000	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L000	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 1	129.3	{100}
57042L000	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L000	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L000	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L000	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 1	129.3	{100}
06206L000	HHB FA BN 105MM T (ABN)	419.3	C+ 1	121.6	{ 29}
			C+ 2	297.7	{ 71}
444444444	ADA BTRY, NLOS	134.5	C+ 2	134.5	{100}
05027L000	ENGR CO, ENGR BN, ABN DIV	111.7	C+ 2	111.7	{100}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 2	201.0	{100}
06207L000	FA BTRY 105MM T (ABN)	129.3	C+ 2	129.3	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 2	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 2	31.5	{ 54}
			C+ 3	26.3	{ 46}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 3	57.8	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 3	741.2	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 3	154.6	{100}
08058L100	MEDICAL CO (FSB) HVY DIV	346.8	C+ 3	346.1	{100}
			C+ 4	.7	{ 0}
17207L000	CAV TRP (GROUND)	89.5	C+ 4	89.5	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 4	190.2	{100}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 4	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 4	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 4	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 4	288.2	{ 85}
			C+ 5	51.2	{ 15}
57004L000	HHC AIRBORNE DIVISION	333.7	C+ 5	333.7	{100}
07209L000	LRS DET MI BN (HVY)	29.5	C+ 5	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+ 5	370.9	{100}
34267L000	C&J CO MI BN ABN DIV	111.9	C+ 5	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+ 5	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+ 5	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+ 5	115.1	{ 30}
			C+ 6	267.4	{ 70}
11067L000	AREA SIG CO, MSE	410.7	C+ 6	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+ 6	410.7	{100}
11068L000	SIG SPT CO, MSE	364.3	C+ 6	237.2	{ 65}

TABLE B-3 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
11068L000	SIG SPT CO, MSE (CONT)		C+ 7	127.1	{ 35}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+ 7	363.1	{100}
17276L000	HQ AND HQ COMPANY	876.4	C+ 7	835.8	{ 95}
			C+ 8	40.6	{ 5}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	281.0	{100}
19313L000	MP COMPANY AIRBORNE DIV	71.4	C+ 8	71.4	{100}
06398L000	FA BTRY MLRS	835.4	C+ 8	90.0	{ 11}
			C+ 9	745.4	{ 89}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+ 9	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+ 9	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+ 9	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+ 9	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+ 9	156.8	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+ 9	14.4	{ 3}
			C+10	519.2	{ 97}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+10	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+10	794.7	{ 74}
			C+11	282.6	{ 26}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+11	575.1	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+11	151.1	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+11	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+11	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+11	176.6	{ 28}
			C+12	452.0	{ 72}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+12	201.5	{100}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+12	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+12	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+12	3.0	{100}
63422L000	CSS AMMO	275.7	C+12	275.7	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+12	62.9	{ 32}
			C+13	132.2	{ 68}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+13	136.4	{100}
06202L000	HHB DIVARTY (ABN)	57.5	C+13	57.5	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+13	704.2	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+13	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+13	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+13	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+13	59.9	{ 38}
			C+14	97.3	{ 62}
01218A000	COMMAND AVN CO (UH-60)	185.7	C+14	185.7	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+14	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+14	183.6	{100}
01913A300	RAS AMC	724.9	C+14	647.1	{ 89}

TABLE B-3 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE BASE CASE (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01913A300	RAS AMC (CONT)		C+15	77.8	{ 11}
01946A000	AMB HHD	36.5	C+15	36.5	{100}
01947A300	GS AMC	722.8	C+15	722.8	{100}
01948A200	ATK AMC	723.1	C+15	488.9	{ 68}
			C+16	234.2	{ 32}
01953A000	AMC	727.5	C+16	727.5	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+16	364.3	{ 42}
			C+17	511.5	{ 58}
01207L000	ASSAULT HEL CO/TRP (UH-60)	338.9	C+17	338.9	{100}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+17	475.6	{ 45}
			C+18	592.2	{ 55}
06436L000	HHB, 155MM T, ABN	134.0	C+18	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+18	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+18	236.5	{ 65}
			C+19	126.8	{ 35}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+19	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+19	624.0	{100}
08498L000	MED DET, PM (SANITATION)	13.4	C+19	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+19	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+19	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+19	101.2	{100}
03457L000	CHEMICAL CO (CORPS)	642.8	C+19	51.7	{ 8}
			C+20	591.1	{ 92}
08813L000	FIELD HOSPITAL (-)	256.3	C+20	256.3	{100}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+20	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+20	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+20	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+20	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+20	40.5	{100}

TABLE B-4
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 1	151.5	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 1	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 1	21.2	{ 11}
			C+ 2	179.8	{ 89}
06398L666	FA BTRY HIMARS	741.2	C+ 2	664.2	{ 90}
			C+ 3	77.0	{ 10}
17277L777	LOSAT CO	362.5	C+ 3	362.5	{100}
06436L000	HHB, 155MM T, ABN	134.0	C+ 3	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	270.5	{ 74}
			C+ 4	92.8	{ 26}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 4	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 4	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+ 4	24.6	{ 4}
			C+ 5	599.4	{ 96}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+ 5	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+ 5	232.5	{ 22}
			C+ 6	844.0	{ 78}
			C+ 7	.8	{ 0}
17276L000	HQ AND HQ COMPANY	876.4	C+ 7	843.2	{ 96}
			C+ 8	33.2	{ 4}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 8	248.8	{ 89}
			C+ 9	32.2	{ 11}
17277L000	LT ARMD CO, AGS	281.0	C+ 9	281.0	{100}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+ 9	530.8	{ 92}
			C+10	44.3	{ 8}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+10	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+10	183.6	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+10	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+10	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+10	154.6	{100}
17207L000	CAV TRP (GROUND)	89.5	C+10	89.5	{100}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+10	44.1	{ 76}
			C+11	13.8	{ 24}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+11	151.1	{100}
01046A000	HHC, ASSAULT BN	190.2	C+11	190.2	{100}
01049A000	AVIATION UNIT MAINT CO	201.9	C+11	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+11	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+11	70.9	{ 21}

TABLE B-4 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01207A200	ASSAULT COMPANY (UH-60) (CONT)		C+12	268.5	{ 79}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+12	339.4	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+12	236.1	{ 34}
			C+13	463.4	{ 66}
57004L000	HHC AIRBORNE DIVISION	333.7	C+13	333.7	{100}
07209L000	LRS DET MI BN (HVY)	29.5	C+13	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+13	17.4	{ 5}
			C+14	353.5	{ 95}
34267L000	C&J CO MI BN ABN DIV	111.9	C+14	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+14	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+14	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+14	64.9	{ 17}
			C+15	317.6	{ 83}
11067L000	AREA SIG CO, MSE	410.7	C+15	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+15	115.7	{ 28}
			C+16	295.0	{ 72}
11068L000	SIG SPT CO, MSE	364.3	C+16	364.3	{100}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+16	184.7	{ 51}
			C+17	178.4	{ 49}
19313L000	MP COMPANY AIRBORNE DIV	161.9	C+17	161.9	{100}
06398L000	FA BTRY MLRS	835.4	C+17	503.7	{ 60}
			C+18	331.7	{ 40}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+18	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+18	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+18	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+18	156.8	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+18	3.8	{ 2}
			C+19	198.2	{ 98}
44637L000	ADA BTRY, CORPS SAM	533.6	C+19	533.6	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+19	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+19	61.0	{ 68}
			C+20	28.4	{ 32}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+20	628.6	{100}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+20	187.0	{ 93}
			C+21	14.5	{ 7}
01427L300	ATS COMPANY (CORPS)	195.1	C+21	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+21	136.4	{100}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+21	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+21	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+21	3.0	{100}
63422L000	CSS AMMO	275.7	C+21	164.1	{ 60}
			C+22	111.6	{ 40}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+22	704.2	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+22	28.2	{ 36}
			C+23	50.4	{ 64}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+23	78.6	{100}

TABLE B-4 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+23	157.2	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+23	557.8	{ 64}
			C+24	318.0	{ 36}
01913A300	RAS AMC	724.9	C+24	526.0	{ 73}
			C+25	198.9	{ 27}
01946A000	AMB HHD	36.5	C+25	36.5	{100}
01947A300	GS AMC	722.8	C+25	608.6	{ 84}
			C+26	114.2	{ 16}
01948A200	ATK AMC	723.1	C+26	723.1	{100}
01953A000	AMC	727.5	C+26	6.7	{ 1}
			C+27	720.8	{ 99}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+27	123.2	{ 12}
			C+28	844.0	{ 79}
			C+29	100.6	{ 9}
08498L000	MED DET, PM (SANITATION)	13.4	C+29	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+29	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+29	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+29	101.2	{100}
03457L000	CHEMICAL CO (CORPS)	642.8	C+29	583.2	{ 91}
			C+30	59.6	{ 9}
08813L000	FIELD HOSPITAL (-)	256.3	C+30	256.3	{100}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+30	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+30	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+30	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+30	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+30	40.5	{100}

TABLE B-5
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 1	151.5	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 1	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 1	201.0	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 1	61.2	{ 8}
			C+ 2	680.0	{ 92}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
06436L000	HHB, 155MM T, ABN	134.0	C+ 2	42.5	{ 32}
			C+ 3	91.5	{ 68}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	266.9	{ 73}
			C+ 4	96.4	{ 27}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+ 4	624.0	{100}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+ 4	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+ 4	352.5	{ 33}
			C+ 5	724.8	{ 67}
17276L000	HQ AND HQ COMPANY	876.4	C+ 5	360.2	{ 41}
			C+ 6	516.2	{ 59}
17277L000	LT ARMD CO, AGS	281.0	C+ 6	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 6	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 6	6.8	{ 2}
			C+ 7	274.2	{ 98}
17277L000	LT ARMD CO, AGS	281.0	C+ 7	281.0	{100}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+ 7	529.8	{ 92}
			C+ 8	45.3	{ 8}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 8	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 8	183.6	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 8	154.6	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 8	89.5	{100}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+ 8	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+ 8	151.1	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 8	75.1	{ 39}
			C+ 9	115.1	{ 61}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 9	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 9	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 9	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 9	212.5	{ 63}
			C+10	126.9	{ 37}

TABLE B-5 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+10	699.5	{100}
57004L000	HHC AIRBORNE DIVISION	333.7	C+10	258.6	{ 77}
			C+11	75.1	{ 23}
07209L000	LRS DET MI BN (HVY)	29.5	C+11	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+11	370.9	{100}
34267L000	C&J CO MI BN ABN DIV	111.9	C+11	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+11	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+11	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+11	183.9	{ 48}
			C+12	198.6	{ 52}
11067L000	AREA SIG CO, MSE	410.7	C+12	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+12	410.7	{100}
11068L000	SIG SPT CO, MSE	364.3	C+12	65.0	{ 18}
			C+13	299.3	{ 82}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+13	363.1	{100}
19313L000	MP COMPANY AIRBORNE DIV	161.9	C+13	161.9	{100}
06398L000	FA BTRY MLRS	835.4	C+13	260.7	{ 31}
			C+14	574.7	{ 69}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+14	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+14	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+14	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+14	156.8	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+14	1.8	{ 1}
			C+15	200.2	{ 99}
44637L000	ADA BTRY, CORPS SAM	533.6	C+15	533.6	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+15	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+15	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+15	210.6	{ 34}
			C+16	418.0	{ 66}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+16	201.5	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+16	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+16	136.4	{100}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+16	134.0	{ 51}
			C+17	130.7	{ 49}
08446L000	HHD, MED EVAC BN	66.2	C+17	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+17	3.0	{100}
63422L000	CSS AMMO	275.7	C+17	275.7	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+17	609.4	{ 87}
			C+18	94.8	{ 13}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+18	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+18	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+18	157.2	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+18	675.8	{ 77}
			C+19	200.0	{ 23}
01913A300	RAS AMC	724.9	C+19	724.9	{100}
01946A000	AMB HHD	36.5	C+19	36.5	{100}

TABLE B-5 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01947A300	GS AMC	722.8	C+19	123.6	{ 17}
			C+20	599.2	{ 83}
01948A200	ATK AMC	723.1	C+20	485.8	{ 67}
			C+21	237.3	{ 33}
01953A000	AMC	727.5	C+21	727.5	{100}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+21	120.2	{ 11}
			C+22	947.6	{ 89}
08498L000	MED DET, PM (SANITATION)	13.4	C+22	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+22	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+22	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+22	78.4	{ 77}
			C+23	22.8	{ 23}
03457L000	CHEMICAL C0 (CORPS)	642.8	C+23	642.8	{100}
08813L000	FIELD HOSPITAL (-)	256.3	C+23	256.3	{100}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+23	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+23	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+23	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+23	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+23	30.0	{ 74}
			C+24	10.5	{ 26}

TABLE B-6
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 1	151.5	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 1	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 1	201.0	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 1	302.2	{ 41}
			C+ 2	439.0	{ 59}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
06436L000	HHB, 155MM T, ABN	134.0	C+ 2	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 2	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 2	27.2	{ 7}
			C+ 3	336.1	{ 93}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+ 3	624.0	{100}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+ 3	2.6	{ 21}
			C+ 4	9.5	{ 79}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+ 4	1077.3	{100}
17276L000	HQ AND HQ COMPANY	876.4	C+ 4	239.2	{ 27}
			C+ 5	637.2	{ 73}
17277L000	LT ARMD CO, AGS	281.0	C+ 5	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 5	281.0	{100}
17277L000	LT ARMD CO, AGS	281.0	C+ 5	126.8	{ 45}
			C+ 6	154.2	{ 55}
17277L000	LT ARMD CO, AGS	281.0	C+ 6	281.0	{100}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+ 6	575.1	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 6	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 6	103.4	{ 56}
			C+ 7	80.2	{ 44}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 7	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 7	154.6	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 7	89.5	{100}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+ 7	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+ 7	151.1	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 7	190.2	{100}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 7	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 7	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 7	68.9	{ 20}
			C+ 8	270.5	{ 80}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 8	339.4	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 8	699.5	{100}
57004L000	HHC AIRBORNE DIVISION	333.7	C+ 8	16.6	{ 5}

TABLE B-6 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57004L000	HHC AIRBORNE DIVISION (CONT)		C+ 9	317.1	{ 95}
07209L000	LRS DET MI BN (HVY)	29.5	C+ 9	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+ 9	370.9	{100}
34267L000	C&J CO MI BN ABN DIV	111.9	C+ 9	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+ 9	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+ 9	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+ 9	182.9	{ 48}
			C+10	199.6	{ 52}
11067L000	AREA SIG CO, MSE	410.7	C+10	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+10	410.7	{100}
11068L000	SIG SPT CO, MSE	364.3	C+10	305.0	{ 84}
			C+11	59.3	{ 16}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+11	363.1	{100}
19313L000	MP COMPANY AIRBORNE DIV	161.9	C+11	161.9	{100}
06398L000	FA BTRY MLRS	835.4	C+11	741.7	{ 89}
			C+12	93.7	{ 11}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+12	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+12	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+12	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+12	156.8	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+12	202.0	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+12	521.8	{ 98}
			C+13	11.8	{ 2}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+13	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+13	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+13	628.6	{100}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+13	201.5	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+13	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+13	136.4	{100}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+13	12.0	{ 5}
			C+14	252.7	{ 95}
08446L000	HHD, MED EVAC BN	66.2	C+14	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+14	3.0	{100}
63422L000	CSS AMMO	275.7	C+14	275.7	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+14	704.2	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+14	24.2	{ 31}
			C+15	54.4	{ 69}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+15	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+15	157.2	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+15	875.8	{100}
01913A300	RAS AMC	724.9	C+15	160.0	{ 22}
			C+16	564.9	{ 78}
01946A000	AMB HHD	36.5	C+16	36.5	{100}
01947A300	GS AMC	722.8	C+16	722.8	{100}
01948A200	ATK AMC	723.1	C+16	1.8	{ 0}
			C+17	721.3	{100}

TABLE B-6 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 1 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01953A000	AMC	727.5	C+17	604.7	{ 83}
			C+18	122.8	{ 17}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+18	1067.8	{100}
08498L000	MED DET, PM (SANITATION)	13.4	C+18	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+18	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+18	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+18	76.4	{ 75}
			C+19	24.8	{ 25}
03457L000	CHEMICAL CO (CORPS)	642.8	C+19	642.8	{100}
08813L000	FIELD HOSPITAL (-)	256.3	C+19	256.3	{100}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+19	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+19	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+19	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+19	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+19	40.5	{100}

TABLE B-7
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 1	151.5	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 1	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 1	21.2	{ 11}
			C+ 2	179.8	{ 89}
06398L666	FA BTRY HIMARS	741.2	C+ 2	664.2	{ 90}
			C+ 3	77.0	{ 10}
17277L777	LOSAT CO	362.5	C+ 3	362.5	{100}
06436L000	HHB, 155MM T, ABN	134.0	C+ 3	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	270.5	{ 74}
			C+ 4	92.8	{ 26}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 4	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 4	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+ 4	24.6	{ 4}
			C+ 5	599.4	{ 96}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+ 5	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+ 5	232.5	{ 22}
			C+ 6	844.0	{ 78}
			C+ 7	.8	{ 0}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+ 7	575.1	{100}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 7	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 7	55.8	{ 30}
			C+ 8	127.8	{ 70}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 8	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 8	154.6	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 8	89.5	{100}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+ 8	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+ 8	151.1	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 8	147.5	{ 78}
			C+ 9	42.7	{ 22}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 9	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 9	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 9	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 9	43.9	{ 13}
			C+10	295.5	{ 87}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+10	548.5	{ 78}
			C+11	151.0	{ 22}
57004L000	HHC AIRBORNE DIVISION	333.7	C+11	333.7	{100}
07209L000	LRS DET MI BN (HVY)	29.5	C+11	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+11	329.8	{ 89}

TABLE B-7 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
34266L000	HQ,HQ OP CO MI BN (CONT)		C+12	41.1	{ 11}
34267L000	C&J CO MI BN ABN DIV	111.9	C+12	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+12	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+12	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+12	377.3	{ 99}
			C+13	5.2	{ 1}
11067L000	AREA SIG CO, MSE	410.7	C+13	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+13	410.7	{100}
11068L000	SIG SPT CO, MSE	364.3	C+13	17.4	{ 5}
			C+14	346.9	{ 95}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+14	363.1	{100}
19313L000	MP COMPANY AIRBORNE DIV	161.9	C+14	134.0	{ 83}
			C+15	27.9	{ 17}
06398L000	FA BTRY MLRS	835.4	C+15	816.1	{ 98}
			C+16	19.3	{ 2}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+16	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+16	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+16	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+16	156.8	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+16	202.0	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+16	114.2	{ 21}
			C+17	419.4	{ 79}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+17	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+17	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+17	284.0	{ 45}
			C+18	344.6	{ 55}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+18	201.5	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+18	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+18	102.8	{ 75}
			C+19	33.6	{ 25}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+19	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+19	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+19	3.0	{100}
63422L000	CSS AMMO	275.7	C+19	275.7	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+19	200.8	{ 29}
			C+20	503.4	{ 71}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+20	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+20	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+20	157.2	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+20	26.2	{ 3}
			C+21	844.0	{ 96}
			C+22	5.6	{ 1}
01913A300	RAS AMC	724.9	C+22	724.9	{100}
01946A000	AMB HHD	36.5	C+22	36.5	{100}
01947A300	GS AMC	722.8	C+22	77.0	{ 11}
			C+23	645.8	{ 89}

TABLE B-7 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (844 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
01948A200	ATK AMC	723.1	C+23	198.2	{ 27}
			C+24	524.9	{ 73}
01953A000	AMC	727.5	C+24	319.1	{ 44}
			C+25	408.4	{ 56}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+25	435.6	{ 41}
			C+26	632.2	{ 59}
08498L000	MED DET, PM (SANITATION)	13.4	C+26	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+26	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+26	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+26	101.2	{100}
03457L000	CHEMICAL C0 (CORPS)	642.8	C+26	51.6	{ 8}
			C+27	591.2	{ 92}
08813L000	FIELD HOSPITAL (-)	256.3	C+27	252.8	{ 99}
			C+28	3.5	{ 1}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+28	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+28	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+28	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+28	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+28	40.5	{100}

TABLE B-8
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 1	151.5	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 1	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 1	201.0	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 1	61.2	{ 8}
			C+ 2	680.0	{ 92}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
06436L000	HHB, 155MM T, ABN	134.0	C+ 2	42.5	{ 32}
			C+ 3	91.5	{ 68}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	266.9	{ 73}
			C+ 4	96.4	{ 27}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+ 4	624.0	{100}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+ 4	12.1	{100}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+ 4	352.5	{ 33}
			C+ 5	724.8	{ 67}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+ 5	360.2	{ 63}
			C+ 6	214.9	{ 37}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 6	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 6	183.6	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 6	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 6	154.6	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 6	89.5	{100}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+ 6	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+ 6	56.6	{ 37}
			C+ 7	94.5	{ 63}
01046A000	HHC, ASSAULT BN	190.2	C+ 7	190.2	{100}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 7	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 7	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 7	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 7	42.9	{ 13}
			C+ 8	296.5	{ 87}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 8	699.5	{100}
57004L000	HHC AIRBORNE DIVISION	333.7	C+ 8	89.0	{ 27}
			C+ 9	244.7	{ 73}
07209L000	LRS DET MI BN (HVY)	29.5	C+ 9	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+ 9	370.9	{100}
34267L000	C&J CO MI BN ABN DIV	111.9	C+ 9	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+ 9	67.1	{100}

TABLE B-8 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+ 9	246.6	{100}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+ 9	14.3	{ 4}
			C+10	368.2	{ 96}
11067L000	AREA SIG CO, MSE	410.7	C+10	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+10	306.1	{ 75}
			C+11	104.6	{ 25}
11068L000	SIG SPT CO, MSE	364.3	C+11	364.3	{100}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+11	363.1	{100}
19313L000	MP COMPANY AIRBORNE DIV	161.9	C+11	161.9	{100}
06398L000	FA BTRY MLRS	835.4	C+11	91.1	{ 11}
			C+12	744.3	{ 89}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+12	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+12	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+12	46.7	{ 81}
			C+13	11.0	{ 19}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+13	156.8	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+13	202.0	{100}
44637L000	ADA BTRY, CORPS SAM	533.6	C+13	533.6	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+13	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+13	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+13	41.0	{ 7}
			C+14	587.6	{ 93}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+14	201.5	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+14	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+14	100.8	{ 74}
			C+15	35.6	{ 26}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+15	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+15	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+15	3.0	{100}
63422L000	CSS AMMO	275.7	C+15	275.7	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+15	439.8	{ 62}
			C+16	264.4	{ 38}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+16	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+16	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+16	157.2	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+16	506.2	{ 58}
			C+17	369.6	{ 42}
01913A300	RAS AMC	724.9	C+17	715.4	{ 99}
			C+18	9.5	{ 1}
01946A000	AMB HHD	36.5	C+18	36.5	{100}
01947A300	GS AMC	722.8	C+18	722.8	{100}
01948A200	ATK AMC	723.1	C+18	316.2	{ 44}
			C+19	406.9	{ 56}
01953A000	AMC	727.5	C+19	678.1	{ 93}
			C+20	49.4	{ 7}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+20	1035.6	{ 97}

TABLE B-8 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (1085 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
43209L000	MAINT CO NON-DIVISIONAL DS (CONT)		C+21	32.2	{ 3}
08498L000	MED DET, PM (SANITATION)	13.4	C+21	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+21	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+21	9.5	{100}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+21	101.2	{100}
03457L000	CHEMICAL CO (CORPS)	642.8	C+21	642.8	{100}
08813L000	FIELD HOSPITAL (-)	256.3	C+21	249.8	{ 97}
			C+22	6.5	{ 3}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+22	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+22	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+22	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+22	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+22	40.5	{100}

TABLE B-9
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
57042L0T1	HHC AIRBORNE BRIGADE	127.8	C+ 1	127.8	{100}
07036L0T1	HHC INF BN (ABN)	249.6	C+ 1	249.6	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07037L0T1	RIFLE CO (ABN)	10.4	C+ 1	10.4	{100}
07038L0T1	ANTIARMOR COMPANY	128.2	C+ 1	128.2	{100}
06707L0T1	FA BTRY 105MM T (AASLT)	151.5	C+ 1	151.5	{100}
444444444	ADA BTRY, NLOS	134.5	C+ 1	134.5	{100}
44437L000	ADA BTRY, AVENGER	201.0	C+ 1	201.0	{100}
06398L666	FA BTRY HIMARS	741.2	C+ 1	302.2	{ 41}
			C+ 2	439.0	{ 59}
17277L777	LOSAT CO	362.5	C+ 2	362.5	{100}
06436L000	HHB, 155MM T, ABN	134.0	C+ 2	134.0	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 2	363.3	{100}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 2	27.2	{ 7}
			C+ 3	336.1	{ 93}
06437L000	FA BTRY, 155MM T, ABN	363.3	C+ 3	363.3	{100}
06439L000	SVC BTRY, 155MM T, ABN	624.0	C+ 3	624.0	{100}
55580LF00	MOVEMENT CON (AIR TERM)	12.1	C+ 3	2.6	{ 21}
			C+ 4	9.5	{ 79}
55817L200	TRANS CARGO TRANSFER CO	1077.3	C+ 4	1077.3	{100}
63266L666	MSB(-) FOR 10K FORCE	575.1	C+ 4	239.2	{ 42}
			C+ 5	335.9	{ 58}
01066L000	HHT, AIR RECON SQUADRON	212.3	C+ 5	212.3	{100}
01068L000	ASSAULT HEL TROOP (UH-60)	183.6	C+ 5	183.6	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 5	57.8	{100}
01267L300	AIR RECON TROOP (COMANCHE)	57.8	C+ 5	57.8	{100}
01069L200	AVIATION UNIT MAINT TROOP	154.6	C+ 5	154.6	{100}
17207L000	CAV TRP (GROUND)	89.5	C+ 5	89.5	{100}
06202L000	HHB DIVARTY (PARA 01,04,05	57.9	C+ 5	57.9	{100}
06413L000	CORPS TGT ACQ DETACHMENT	151.1	C+ 5	151.1	{100}
01046A000	HHC, ASSAULT BN	190.2	C+ 5	25.5	{ 13}
			C+ 6	164.7	{ 87}
01049A000	AVIATION UNIT MAINT CO	201.9	C+ 6	201.9	{100}
01108A000	COMMAND AVN CO (EH/UH-60)	216.1	C+ 6	216.1	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 6	339.4	{100}
01207A200	ASSAULT COMPANY (UH-60)	339.4	C+ 6	339.4	{100}
01042A0B1	HHC, DIV AVN BDE (ABN)	699.5	C+ 6	64.5	{ 9}
			C+ 7	635.0	{ 91}
57004L000	HHC AIRBORNE DIVISION	333.7	C+ 7	333.7	{100}
07209L000	LRS DET MI BN (HVY)	29.5	C+ 7	29.5	{100}
34266L000	HQ,HQ OP CO MI BN ABN DIV	370.9	C+ 7	327.8	{ 88}
			C+ 8	43.1	{ 12}
34267L000	C&J CO MI BN ABN DIV	111.9	C+ 8	111.9	{100}
34268L000	INTEL&SURVL CO MI BN ABN	67.1	C+ 8	67.1	{100}
34269L000	SVC SPT CO MI BN ABN DIV	246.6	C+ 8	246.6	{100}

TABLE B-9 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
11066L000	HHC, DIV SIG BN, MSE	382.5	C+ 8	382.5	{100}
11067L000	AREA SIG CO, MSE	410.7	C+ 8	410.7	{100}
11067L000	AREA SIG CO, MSE	410.7	C+ 8	64.1	{ 16}
			C+ 9	346.6	{ 84}
11068L000	SIG SPT CO, MSE	364.3	C+ 9	364.3	{100}
03057L000	CHEM CO (SMK/DECON) ABN/AA	363.1	C+ 9	363.1	{100}
19313L000	MP COMPANY AIRBORNE DIV	161.9	C+ 9	161.9	{100}
06398L000	FA BTRY MLRS	835.4	C+ 9	90.1	{ 11}
			C+10	745.3	{ 89}
01056L000	HHC, ATTACK HELICOPTER BN	236.3	C+10	236.3	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+10	57.7	{100}
01057L300	ATTACK HEL CO (COMANCHE)	57.7	C+10	57.7	{100}
01058L300	AVN UNIT MAINT CO (COMANC	156.8	C+10	156.8	{100}
44136L1E3	HHB ADA BN ABN DIV	202.0	C+10	72.2	{ 36}
			C+11	129.8	{ 64}
44637L000	ADA BTRY, CORPS SAM	533.6	C+11	533.6	{100}
08577LA00	HOSP UNIT, SURG FWD (HUSF)	51.2	C+11	51.2	{100}
08909L000	MED LOG SUPPORT DET	89.4	C+11	89.4	{100}
08447L200	MED CO, AIR AMBL (UH-60A)	628.6	C+11	522.0	{ 83}
			C+12	106.6	{ 17}
08457L000	MEDICAL COMPANY (AREA SPT)	201.5	C+12	201.5	{100}
01427L300	ATS COMPANY (CORPS)	195.1	C+12	195.1	{100}
222222222	HHC, CORPS FOR 10K FORCE	136.4	C+12	136.4	{100}
08449L000	MEDICAL AMBULANCE COMPANY	264.7	C+12	264.7	{100}
08446L000	HHD, MED EVAC BN	66.2	C+12	66.2	{100}
63433L000	MMC, CORPS SPT CMD	3.0	C+12	3.0	{100}
63422L000	CSS AMMO	275.7	C+12	275.7	{100}
01386L200	HHC, ATK HEL BN (AH-64LB)	704.2	C+12	76.8	{ 11}
			C+13	627.4	{ 89}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+13	78.6	{100}
01387L200	ATTACK HEL CO (AH-64LB)	78.6	C+13	78.6	{100}
01389L200	AVN UNIT MT CO (AH-64LB)	157.2	C+13	157.2	{100}
01973L200	AVN MAINT CO, ABN (AH-64)	875.8	C+13	384.2	{ 44}
			C+14	491.6	{ 56}
01913A300	RAS AMC	724.9	C+14	724.9	{100}
01946A000	AMB HHD	36.5	C+14	36.5	{100}
01947A300	GS AMC	722.8	C+14	73.0	{ 10}
			C+15	649.8	{ 90}
01948A200	ATK AMC	723.1	C+15	676.2	{ 94}
			C+16	46.9	{ 6}
01953A000	AMC	727.5	C+16	727.5	{100}
43209L000	MAINT CO NON-DIVISIONAL DS	1067.8	C+16	551.6	{ 52}
			C+17	516.2	{ 48}
08498L000	MED DET, PM (SANITATION)	13.4	C+17	13.4	{100}
41718L000	CA DET (DIRECT SUPPORT)	36.1	C+17	36.1	{100}
08419L000	MED DET, VET SVC (SMALL)	9.5	C+17	9.5	{100}

TABLE B-9 (cont.)
AIRLIFT CLOSURE
MIDDLEWEIGHT FORCE - ADJ 2 (1326 STON/DAY)

UNIT SRC*	UNIT DESCRIPTION	UNIT STON	DEPLOY DAY	STON DELIVERED	{%}
33708L000	PSYOP TACTICAL COMPANY	101.2	C+17	101.2	{100}
03457L000	CHEMICAL CO (CORPS)	642.8	C+17	642.8	{100}
08813L000	FIELD HOSPITAL (-)	256.3	C+17	6.8	{ 3}
			C+18	249.5	{ 97}
55555L500	CHAPLAIN UNIT FOR 10K FORC	40.9	C+18	40.9	{100}
12427L000	HHD, PERS SVC DET	24.2	C+18	24.2	{100}
14423L000	FINANCE DETACHMENT	14.0	C+18	14.0	{100}
08567LA00	MED DET, CMBT STRESS CNTRL	54.0	C+18	54.0	{100}
45423L000	PRESS CAMP HQ	40.5	C+18	40.5	{100}

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APPENDIX C

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

The following is a listing of selected acronyms and abbreviations that are frequently used in this analysis. If a long title or acronym is frequently used in the analysis, it is spelled out fully the first time it is used along with its related acronym or abbreviation. The acronym or abbreviation is used thereafter.

AASLT	Air Assault
ABN	Airborne
AGS	Armored Gun System
AMC	Air Mobility Command
APOD	Aerial Port of Debarkation
APOE	Aerial Port of Embarkation
BAI	Backup Aircraft in the Inventory
C-Day	Day Deployment Begins
CINC	Commander-in-Chief
COMPASS	Computerized Movement Planning and Status System
CONUS	Continental United States
CORPS SAM	Corps Surface-to-Air Missile System
CRAF	Civil Reserve Air Fleet
DISCOM	Division Support Command
DIVARTY	Division Artillery
DRB	Division Ready Brigade
ECF	Equipment Characteristics File
EELS	Early Entry Lethality and Survivability
EUCOM	European Command
FORSCOM	Forces Command
LOSAT	Line-of-Sight Antitank
MASS	Mobility Analysis Support System
MLRS	Multiple Launcher Rocket System
MRS	Mobility Requirements Study
MTMCTEA	Military Traffic Management Command Transportation Engineering Agency
NMS	National Military Strategy
NLOS-AT	Non-Line-of-Sight Antitank
PAA	Primary Authorized Aircraft
RDD	Required Delivery Date
SACEUR	Supreme Allied Commander, Europe
STON	Short Ton (2,000 Pounds)
SRC	Standard Requirements Code
TARGET	Transportability Analysis Reports Generator
TOE	Table of Organization and Equipment
TPFDL	Time Phased Force Deployment List
TRAC-SAC	TRADOC Analysis Center, Studies and Analysis Center

TRADOC	Training and Doctrine Command
USTRANSCOM	United States Transportation Command

APPENDIX D

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APPENDIX F

EARLY ENTRY FORCE TAILORING TOOL (EFFORT)

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APPENDIX F

THE EARLY ENTRY FORCE TAILORING TOOL (EFFORT)

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ABSTRACT

The Early Entry Force Tailoring Tool (EFFORT) is an integer goal program using the General Algebraic Modeling System (GAMS). EFFORT's purpose is to assist decision makers in selecting the type and number of Army units required for an early entry mission and provide an alternative to current force tailoring comparisons.

EFFORT allows the decision maker to examine different scenarios and varying conditions worldwide to determine an optimal force for that specific threat. The program is broken into modules for ease of use, and variability is incorporated by using fuzzy set theory and GAMS' pseudo random number generator. The program allows the decision maker the following options:

-set the minimum (lower bound) and maximum (upper bound) number for each type of unit based on mission requirements and location.

-assess each unit in the areas of lethality, survivability, deployability, sustainability, and mobility (warfighting characteristics). Data to support the assessment is gathered from combat models. If the user is not satisfied with the combat model results, he can subjectively upgrade or degrade the unit assessment using the fuzzy linguistic terms of *high, moderately high, medium, moderately low,* or *low.*

-assess the relative importance of the warfighting characteristics in relation to one another using the terms of *most important, more important, important, less important, least important,* or *not important.*

-change the right hand side of the constraint equations to reflect the goals of the decision maker and/or imposed limitations.

-allows additional modules to be added to reflect a decision maker's desires.

An explanation of the concepts in the development of EFFORT, how to arrive at an optimal force, and the current status of the program is presented.

I. INTRODUCTION

Force tailoring is a common, yet complex problem for military analysts. Determining the best force both in terms of size and type is important since it directly impacts on the success or failure of the force performing the mission. In the age of shrinking military budgets and expanding force projection, force tailoring is now even more critical. The forces we deploy to different countries must be capable of performing various critical peacetime and, if necessary, wartime tasks. We learned from Desert Shield/Storm that our forces must deploy rapidly and still be both lethal and survivable. These early entry forces must arrive within a specified time (the Army Strategic Mobility Program specifies the lead brigade at C+4 and the lead division at C+12)

and possess significant lethality and survivability characteristics. Our future adversaries will likely not wait until the majority of our forces and infrastructure are present.

The typical force tailoring process is to examine a series of alternative force structures in various combat models/simulations. A comparison of these forces against various essential elements of analyses (EEAs) is then done to determine the best force. A problem is that this force is the best only among the selected alternatives for the particular set of conditions and assumptions. Reality tells us these ideal circumstances will probably never occur, and there may be other alternatives not explained that are better than our best. Does this mean our current force tailoring process is skewed? Not at all, since the analyst is able to garnish insights into force performances and determine optimal mixes of weapon systems/units, day/night capabilities, chemical environment effects, and other beneficial discernments. An alternate methodology though may be advantageous.

The precept for this paper is that a tool can be designed to either tailor the force after the analysis from the combat models/simulations or tailor a force prior to examining it in the combat model. The tool would benefit planners in determining the best force to deploy. Decision makers often have preconceived notions and expectations of what units in a force package can do and what the force package's capabilities should be. Allowing the decision maker to make adjustments to these characteristics and examine "what-ifs" is critical to designing an early entry force earmarked for success. The decision maker must answer the kinds of questions necessary for a force to accomplish its mission. The Early Entry Force Tailoring Tool (EFFORT) is designed to offer decision makers this latitude with mathematical rigor.

EFFORT started with the work performed for the Early Entry Lethality and Survivability (EELS) Battle Lab in support of the Louisiana Maneuvers 1994 issue of how to make lightweight forces capable of being more lethal, survivable, sustainable, and tactically mobile and middleweight forces capable of being more deployable without losing tactical mobility or lethality. This dilemma of conflicting goals indicated the need to use a goal programming approach. For example, we want our forces to be highly lethal, but at what cost to sustainment and deployability? The nature of the competing objectives lent themselves to the principles of goal programming.

The two possibilities were a preemptive goal program or a nonpreemptive goal program. A preemptive goal program approach was used because the goals were considered to be of roughly comparable importance. The most one goal could be favored over another goal is 5 times as much. Although an argument can be made that the warfighting characteristics (lethality, survivability, deployability, sustainability, and mobility) can have a hierarchy of priority levels, most planners would not so heavily weight one warfighting characteristic over another. Consequently, the nonpreemptive approach using a sequential or streamlined procedure was not used.

The General Algebraic Modeling System (GAMS) was the prime choice to model the program in. GAMS allows concise, easy to read algebraic statements and can use the most powerful solvers available. The program also needed to have the following capabilities:

- incorporates the warfighting characteristics of units
- adaptable to any scenario or environment
- uses output from combat models
- allows planners to examine "what-ifs"

- fast
- user friendly.

Goal programming has three basic steps: establishing the numeric goal for each objective, formulating the objective equation for each objective, and then solving to minimize the weighted sum of deviations between each of the objective functions and their goals. Establishing the goals of the force is a simple process. Formulating the objective equation is more difficult, especially when the numbers representing a unit's contribution to each warfighting characteristic is hard to measure. Solving the problem with the algebraic constraints of GAMS (using the XA solver) is simple.

This paper will address how each of the three basic steps of goal programming was accomplished, how an optimal force is obtained, and the current status of EFFORT including its capabilities and shortcomings.

II. ESTABLISHING GOALS

A critical requirement of the program was its adaptability to any scenario or environment. Instead of designing a program specified for only one type of conflict, the program had to be robust to accept a variety of conditions. Another consideration was that priorities and requirements of the force specified by the decision maker were subject to change. EFFORT allows the decision maker to change the desired goals of the force based on mission, enemy, friendly forces, terrain, time (METT-T), and other variables. The ability to change the goals is vital to the program's robustness. Recognizing that the force must have different warfighting characteristic capabilities due to varying regions and threats illustrates the need for the ability to change goals. Changing the specified goals in EFFORT is a simple process. The warfighting characteristic modules that have user specified goals are as follows:

◆Lethality

- percentage of the enemy system desired to be destroyed for:
  - *helicopters*
  - *artillery/mortars*
  - *C3I*
  - *Mounted ADA*
  - *armored vehicles*
  - *MANPADS*
  - *reconnaissance*
  - *fixed wing*
  - *tactical ballistic missiles (TBMs)*
  - *TBM launchers*

◆Survivability

- percentage of friendly assets surviving the battle:
  - *combat systems*
  - *soldiers*

◆Deployability

- *C141* (number of C141 airplanes dedicated for deployment per day x number of days for deployment)
- *C5* (number of C5 airplanes dedicated for deployment per day x number of days for deployment)
- *PREPO* (number of prepositioned ships available)
- *C141 airfields* (capacity of airfields in number of C141 planeloads per day x number of days for deployment)

- *C5 airfields* (capacity of airfields in number of C5 planeloads per day x number of days for deployment)
- *ports* (capacity of ports in number of ships the ports can support and off-load per day x number of days for deployment)

◆Sustainability
- *C141 fuel* (space available for fuel on C141 = number of C141 airplanes available for fuel per day x number of days for deployment x 9000 gallons (capacity of C141))
- *C5 fuel* (space available for fuel on C5 = number of C5 airplanes available for fuel per day x number of days for deployment x 27000 gallons (capacity of C5))
- *C141 ammunition* (space available for ammunition on C141 = number of C141 airplanes available for ammunition per day x number of days for deployment x 25 STONs (capacity of C141))
- *C5 ammunition* (space available for ammunition on C5 = number of C5 airplanes available for ammunition per day x number of days for deployment x 75 STONs (capacity of C5))

◆Tactical Mobility
- *supply movement* (time required in hours for force to move supplies from within lodgment to its units)
- *personnel/equipment movement* (time required in hours for force to move personnel and equipment within the lodgment)
- *expand battle space* (time required in hours for force to expand the battle space 40 kilometers)

The user can change the goals of the force as necessary to represent the scenario. With lethality for example, if the threat had no TBM capability, then these percentages could be set to zero. With survivability, the user is asked the difficult question of what percentage of soldiers should survive. Obviously battlefield commanders do not want any casualties, but risk is inherent in early entry operations, and the user must decide what the acceptable risk is. With deployability, the constraints of aircraft and ships are modeled and the user can also adjust the number of days available for deployment. This allows him to examine the possibilities of gaining extra days for deployment. With sustainability, the user can determine the force's requirements for fuel and ammunition to ensure the force is adequately supplied. Tactical mobility allows the force to be adaptable to a changing environment on the battlefield and respond to the appropriate location. Other modules can be added to examine force tailoring with future systems such as the C-17 aircraft.

The decision makers must give their desired goals for the force. These goals then are stated explicitly allowing staff elements to examine the goals and give recommendations to the decision maker. Instead of an implicit understanding of goals, the user now has stated goals and can adjust those goals to determine the effect on the force. With the goals specified, the next step is to determine the contribution of each unit in achieving these goals.

III. FORMULATING OBJECTIVE FUNCTIONS

Each unit impacts on each of the goals. The requirement is to determine how to measure this impact for each unit. In deployability this is a simple process since there are data bases from the Military Traffic Management Command Transportation Engineering Agency (MTMC TEA) which dictate the number of C141 and C5 airplanes required by each type of unit. Similarly, sustainability is straight forward due to the data available from TRADOC Analysis Center-Fort Lee which tells how much fuel and ammunition a unit requires depending on the type of operation and nature of the battle.

Determining the effectiveness of units for lethality, survivability, and tactical mobility goals is not as easy. Data are readily available to measure the effectiveness of individual weapon systems, but this data will not be of extensive use when determining the capabilities of an entire unit. Another concern is the degree of synergism present both within and between units that influences the outcome. One approach is to generate a series of combat model runs and then average these results to measure each unit's contribution (deterministic). Another approach is to do the same runs and determine the probability distribution for the unit's contribution (stochastic). EFFORT uses the stochastic approach to account for the variability associated with unit capabilities. The problem then is finding the probability distribution for the capabilities of the units.

EFFORT uses a linguistic application of fuzzy set theory[1] to capture the contribution of units. The use of fuzzy sets also helps to implicitly handle the nonlinearity inherent in the synergism of units. Each unit has its contribution measured in the fuzzy linguistic variables of *High, Moderately High, Medium, Moderately Low, Low*, or *Not Applicable*. The ranges associated with these fuzzy sets are different for each of the modules, but the linguistic terms remain the same. The principle reason behind using fuzzy sets is best illustrated by an example. Since synergism of units is present and the number of combat model runs is limited, fuzzy sets best capture the associated imprecision. Although a unit may be assessed as *Moderately High* in a module, fuzzy sets allow for the possibility that its range fall in the *High* or *Medium* linguistic term. The added advantage is that users can more readily assess units using linguistic terms rather than actual numbers. If the user is so inclined or as the scenario changes, the user can adjust the ranges for the fuzzy sets. An excellent example is for a light infantry company. Its lethality contribution may be *Low* in desert scenarios, but its contribution may be *High* in a jungle or mountainous scenario. Again the ability of the user to change the characteristics of the units makes it a useful and appealing tool for decision makers.

The lethality and survivability modules were done using the following methodology.[2]

- Eleven Vector-in-Commander (VIC) combat model simulation runs using various force packages in support of the Early Entry Force Analysis (EEFA) study were done and the data collected. The data were put into a spreadsheet and the ranges and averages calculated.

---

[1] An explanation of fuzzy set theory and military application of it is in the thesis entitled *Mission Essential Task List (METL) Assessment Using a Linguistic Application of Fuzzy Set Theory* by CPT Thomas M. Cioppa.

[2] The author thanks Cadet James J. Tuite of the United States Military Academy for his assistance in the application of this methodology during his Individual Academic Development (IAD) Summer Internship.

•A funnel approach with the fuzzy sets was used. In this approach the ranges were the largest for *High* and smallest for *Low*. This was done because there was more variability in the higher percentages. The ranges are assumed to have a uniform distribution.
•The individual runs were then examined to determine the single highest contribution. This number was rounded up and became the upper bound for *High*. The lower bound for *Low* was always .01.
•The difference between the upper bound of *High* and the lower bound of *Low* was calculated and divided by 5 (the number of linguistic terms excluding *Not Applicable*). If the quotient was not an integer, the result is rounded down. This resultant is added to the lower bound of *Low* and becomes the upper bound of *Low*. For example, if the upper bound of *High* was .22, then (.22-.01)/5 = .042. Rounding down this result to the nearest hundredth yields .04 and adding this to the lower bound of *Low* gives .05. The range for the *Low* is then .01-.05.
•An overlap of .02 is used for the linguistic terms and can be changed by users. This overlap then specifies the lower bound of *Moderately Low* as .03 (.05 (upper bound of *Low*) - .02 (overlap)). To establish the upper bound of *Moderately Low*, add .01 (standard additive factor) to .04 (original rounded quotient) to get a range band width of .05. Adding this to .03 gives the upper bound of *Moderately Low* of .08. The range for *Moderately Low* is then .03-.08.
•The lower bound for *Medium* is then .06. The upper bound is the new range band width of .06 (.01 (standard additive factor) + .05 (range band width of *Moderately Low*)) added to the lower bound of .06. *Medium* then has the range of .06-.12.
•The lower bound for *Moderately High* is .10. The upper bound is the new band range width of .07 (.01 (standard additive factor) + .06 (range band width of *Medium*)) added to the lower bound of .10. *Moderately High* has the range of .10-.17.
•*High* then has a lower bound of .15 and its upper bound (previously determined from the spreadsheet) of .22. Although *Moderately High* and *High* have the same range band width, the funneled range band width effect is still maintained. The reason for the same width is due to the rounding, but it does not hinder the effectiveness of the fuzzy sets.
•The unit is then assessed using a fuzzy linguistic variable based on where its average from the VIC combat model simulation runs falls in the range bands. The user can subjectively upgrade or degrade the assessment.

This procedure summarizes the approach used for the completed lethality and survivability modules. The same approach will be used for the tactical mobility modules. The pseudo random number generator (RNG) of GAMS generates the actual value used within the ranges for the linguistic variables. With the goals and contribution of units to these goals completed, the next step is to seek a solution.

IV. MINIMIZING SUM OF DEVIATIONS

The user has two further specifications he can make prior to solving the program. The user can set the lower bound (minimum) and upper bound (maximum) for each type of unit. This allows the decision maker to make up front choices about the units he wants to deploy and those he wants left out of the force package. This capability allows the user to either ensure a certain

unit is included or excluded from the solution or limit the maximum number of units to those that are available or exist.

The decision maker must also assess the importance of each of the objective functions in achieving their goals. Fuzzy sets are not required for the importance terms because the decision maker is dictating the weighting requirements just as he dictated the goals (also non-fuzzy). The non-fuzzy terms are *most important, more important, important, less important, least important,* and *not important*. For example, the decision maker can assess survivability of soldiers as *most important* and the C5 fuel sustainment as *least important*. Again the decision maker must make these choices explicitly. Although decision makers consider these factors currently, they do so implicitly. By making explicit choices, staff elements and planners are better able to understand the decision maker's intent. The reason these non-fuzzy terms are used is to make it easier for the decision maker to express his desires. It is difficult to assess one goal as 2.3 times as important as another. An argument then arises as to why 2.2 or 2.5 was not chosen or even 2.31. Since the RNG is being used for the lethality, survivability, and tactical mobility goals, we can use the RNG for the non-fuzzy terms. Using a Likert scale, the terms are evaluated as follows:

- *most important* (weight: 4.01-5)
- *more important* (weight: 3.01-4)
- *important* (weight: 2.01-3)
- *less important* (weight: 1.01-2)
- *least important* (weight: .01-1)
- *not important* (weight: 0)

With the inputs from the user complete, the program is ready to be solved. The essential algebraic constraint behind the goal program is the auxiliary variable and its associated positive and negative components. For each of the objective functions for each goal, the auxiliary component and its positive and negative components are incorporated into each objective function. The respective positive or negative component and weight (importance term) is then used in the overall objective function that looks for the solution that minimizes the weighted sum of deviations between each of the objective functions and their respective goals.

In GAMS[3] these three equations are represented by the following:

```
·SLACK(CONSTRAINT) =E= POS_SLACK(CONSTRAINT) -
      NEG_SLACK(CONSTRAINT)

·SUM(UNIT_TYPE, COEF(UNIT_TYPE, CONSTRAINT) *
      NUMBER(UNIT_TYPE)) - SLACK(CONSTRAINT) =E=
      CNST_DATA(CONSTRAINT, "LIMIT")

·OBJ =E= SUM(CONSTRAINT, CNST_DATA(CONSTRAINT, "WEIGHT") *
      (POS_SLACK(CONSTRAINT)$(CNST_DATA(CONSTRAINT,
      "SIGNS") GT 0) + NEG_SLACK(CONSTRAINT)$ (CNST_DATA
      (CONSTRAINT, "SIGNS") LT 0)))
```

The first equation simply breaks the auxiliary variable (SLACK) into its positive (POS_SLACK) and negative (NEG_SLACK) components. The second equation reformulates

---

[3] Further information on GAMS can be found in *GAMS: A User's Guide* by Anthony Brooke, David Kendrick, and Alexander Meeraus.

the goal program into the standard linear programming format. The third equation is the overall objective equation and incorporates the importance weights (WEIGHT) as the penalties. For example, if the force fails to destroy less than the goal of enemy helicopters, then its negative component (NEG_SLACK) is in the overall objective function. Conversely, if the force exceeds the goal of C141s for deployment, then its positive component (POS_SLACK) is in the overall objective function. GAMS then solves the linear program problem by minimizing the overall objective function using the XA solver. The solution time for one iteration is approximately 45 seconds on a 486DX/33 computer. The solution lists the name of the unit and the integer number in the force package. The next step is to determine the optimal force.

V. OPTIMIZING THE FORCE

Since EFFORT is stochastic, the seed for the RNG is changed and a next iteration is performed. The question is to determine how many iterations need to be done to obtain a satisfactory solution.[4] One of the problems with stochastic models is the time required to complete a sufficient number of runs to satisfy the statistical criteria. Instead of mandating a certain number of runs to the user, an alternate approach is used.

The user performs 25 runs of EFFORT changing the seed each time and then arranges the results for each unit from lowest to highest. The user examines the median value (13th) and the mode for each unit. If the two are the same and no other dominant value exists, this is the number for that particular unit. If the user is not satisfied with the distribution (for example, an almost uniform distribution of numbers for a particular unit), the user sets the number for those units he is satisfied with and then performs an additional 25 runs. He then repeats the process until each unit is completed. Experience with EFFORT shows that no more than 50 runs has been necessary. Again the user has the opportunity to examine the distributions and make the decision of whether the current results are sufficient or additional runs are required.

The process for finding the optimal force is complete. The user then can either use this force as input to combat models for further testing or use this force in training exercises for evaluation. In either case, the user has designed a force that takes into account many explicit factors which impact on the success of a force.

VI. CONCLUSIONS

EFFORT's lethality, survivability, deployability, and sustainability modules are complete. The tactical mobility modules are currently being modeled and built. The model is efficient, but lacks a user-friendly interface. An interface is being designed to make EFFORT appealing to decision makers and planners. The key aspects of the model are its adaptability to different scenarios and its ability to incorporate the decision maker's goals in determining the optimal force.

EFFORT uses fuzzy set theory and stochastic principles which allows consideration of the inherent variability of units. Since the model is built in modules, modules can be deleted or new ones added to suit the desires of the decision maker. The opportunity to adjust the minimum and maximum number of units, the assessment of warfighting characteristics of units, the relative importance of the warfighting characteristics, and the desired performance/goals of the force is present allowing for the analysis of "what-ifs."

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[4] The author thanks LTC(P) Thomas Pawlowski III, Ph.D and Dr. Michael Anderson for their insight into this question.

The new dimension of warfare requires a quick and lethal force that is adaptable to changing emvironments. EFFORT moves the force tailoring process in the right direction by giving decision makers and planners a tool to assist in determining the optimal force for any possible conflict. Instead of relying solely on military judgment, EFFORT captures this expertise in a mathematical model to arrive at the appropriate force.

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APPENDIX G

SUFFICIENCY CRITERIA FOR REALIGNMENT ADJUSTMENT PROCESSOR AND FORCE PACKAGE PLANNER

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APPENDIX G

SUFFICIENCY CRITERIA FOR REALIGNMENT ADJUSTMENT PROCESSOR AND FORCE PACKAGE PLANNER

1. Introduction. SCRAP and FORP were used to determine which types of units to delete and add to the force package to maximize force performance in the FSCs. Included in this section is detailed information on the two models and a thorough explanation of the process used in the models for each of the adjustments.

2. Sufficiency Criteria for Realignment Adjustment Processor (SCRAP). To help determine which units in the force to delete, SCRAP is used to calculate each unit's contribution to the force's goal achievement. Figures G-1 through G-4 illustrate the calculations made by SCRAP to determine a unit's contribution.

a. Figure G-1 shows the calculations to determine the contribution of a unit in a deployability Force Sufficiency Criteria (FSC), in this case, deployment of the force. In this example the goal is to deploy the force in 900 planeloads, however, the force currently requires 1200 planeloads to deploy. There is a deviation from the goal of 300 planeloads. This computes to be a percent deviation from goal of 33.3 percent.

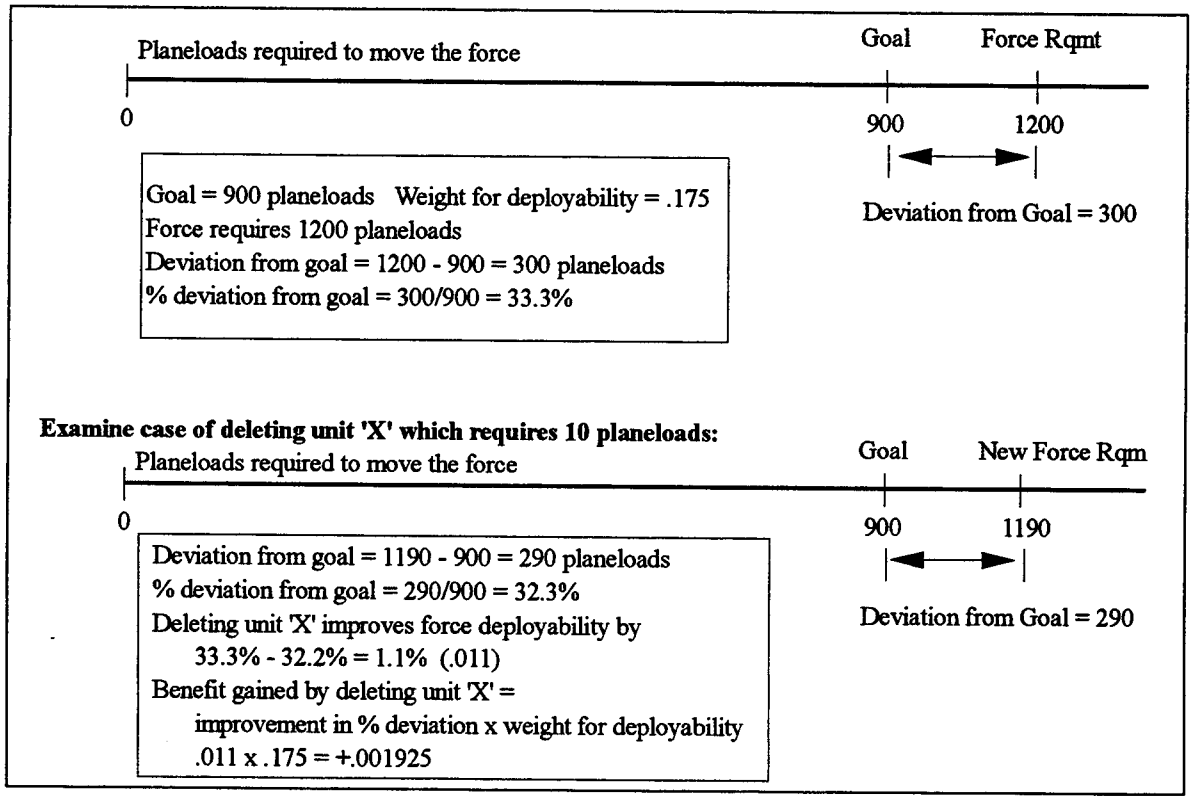


Figure G-1. Deployability calculations.

b. If a unit requires 10 planeloads to deploy, then by deleting it from the force we can expect the force to now require 1190 planeloads. This would represent a deviation of 290 planeloads and a percent deviation of 32.3 percent. By deleting this unit, the force deployability would improve by 1.1 percent. Therefore, the benefit gained by deleting the unit would be the percent improvement (1.1) to force deployability multiplied by the weight (.175) associated with this deployability FSC, or +.001925.

c. A similar set of calculations are made for each type unit for each FSC and then summed for each unit to determine the total benefit gained by deleting the unit from the force.

d. Figure G-2 shows the calculations for a lethality FSC when the unit has made a positive contribution, that is, it has killed enemy systems. In this example, the goal for the FSC is 70 percent of enemy systems destroyed, and the force performance from the VIC run was 52 percent destroyed. The deviation from the goal is, therefore, 18 percent, and the percent deviation from the goal is 25.7 percent.

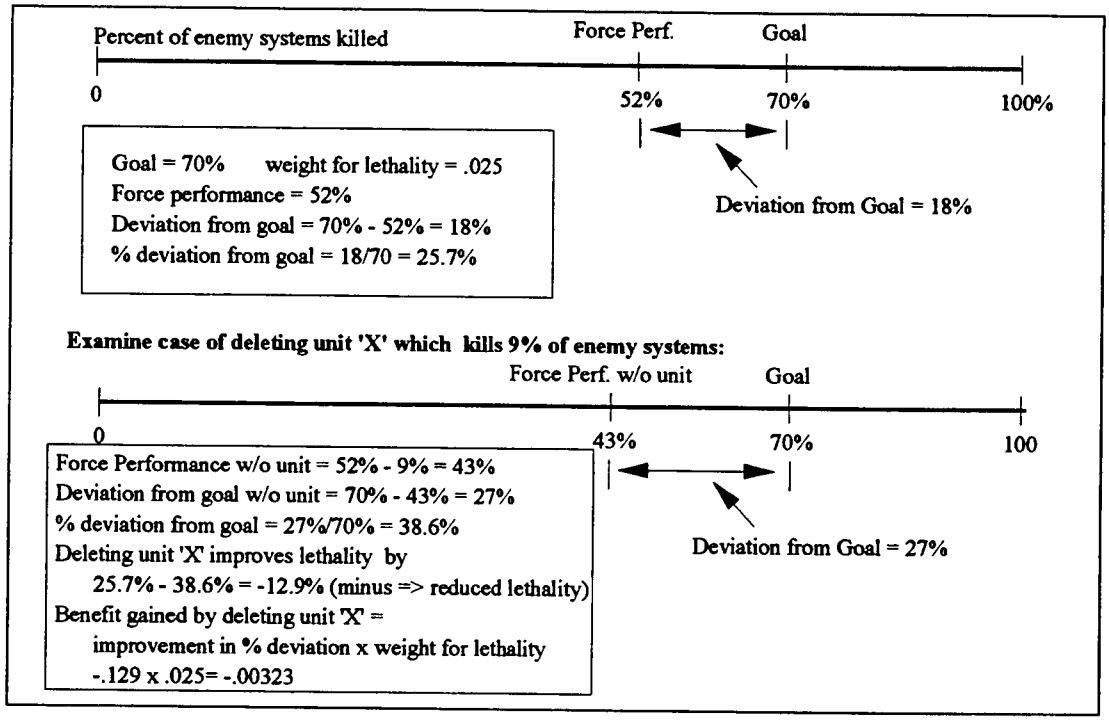


Figure G-2. Lethality calculations for units making a positive contribution.

e. If a unit killed 9 percent of the enemy systems, then we must calculate how the force would perform without that unit. This comes to 43 percent of enemy systems destroyed. The force's deviation from the goal without this unit is then 27 percent and the percent deviation from goal is 38.6 percent. By deleting the unit from the force, the lethality of the force as measured for this FSC is reduced by 12.9 percent. Given that the weight associated with this FSC is .025, the benefit gained by deleting the force is -.00323.

f. Figure G-3 shows the calculations for unit's that do not kill any enemy systems during the battle. In this case, we assess a penalty to the unit for not having destroyed any systems that it

should have destroyed. Only FSC that clearly apply to the unit can have a penalty associated with for that unit. For example, Avengers would be expected to kill enemy helicopters, so if an Avenger unit did not destroy any enemy helicopters, it would be assessed a penalty. In contrast, Avengers would not be expected to destroy enemy tanks, so no penalty would be assessed to an Avenger unit because it did not destroy any tanks.

g. The amount of the penalty assessed is 10 percent of the total deviation associated with the force. This amount was selected as a reasonable amount of improvement that we could expect if the unit were making a valid contribution to the force effectiveness.

h. In the example in Figure G-3, a unit has not killed any systems of a type it is expected to kill. Once again the goal for this FSC is 70 percent and the force actually achieved 52 percent kills. The penalty assessed to the noncontributing unit is thus 1.8 percent calculated as 10 percent of the 18 percent deviation from goal. Therefore, deleting the unit from the force would improve the force's performance for this FSC by an estimated 2.57 percent. When multiplied by the weighting factor for this lethality FSC, .025, the benefit gained by deleting this unit is +.00064.

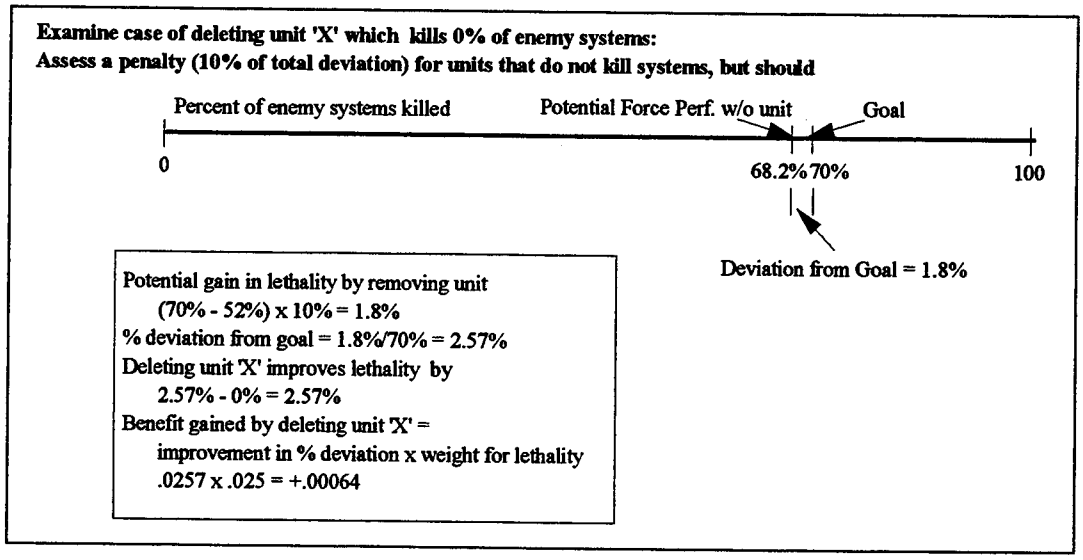


Figure G-3. Lethality calculations for units making no contribution.

i. Figure G-4 shows sample calculations for the survivability FSC. In this example, the goal is for 70 percent of the friendly systems to survive. There are a total of 2000 systems in the force, so 1400 systems surviving is the goal. In the VIC simulation run, only 1164, or 58.2 percent of the total systems survived. The deviation from the goal is thus 236 systems. This is a percent deviation from goal of 16.857 percent.

j. If a unit has 10 systems and 9 survived, then we must calculate the change in force performance if we were to delete this unit from the force. Without this unit there would be 10 less systems in the force or 1990 systems. The goal for this size force with a 70 percent survival goal

would be 1393 systems surviving. The force would be expected to have 1155 systems surviving, 9 less without this unit. Therefore, the deviation from goal would be 238 systems and the percent deviation would be 17.085 percent. By deleting this unit from the force, survivability would improve by -.228 percent. The negative number implies that survivability would actually decrease if this unit were deleted from the force. The benefit gained by deleting this unit is thus -.00068. Based only on this measure we would not want to delete the unit from the force. However, when added to the other FSC calculations this unit may have a positive benefit if it were deleted from the force.

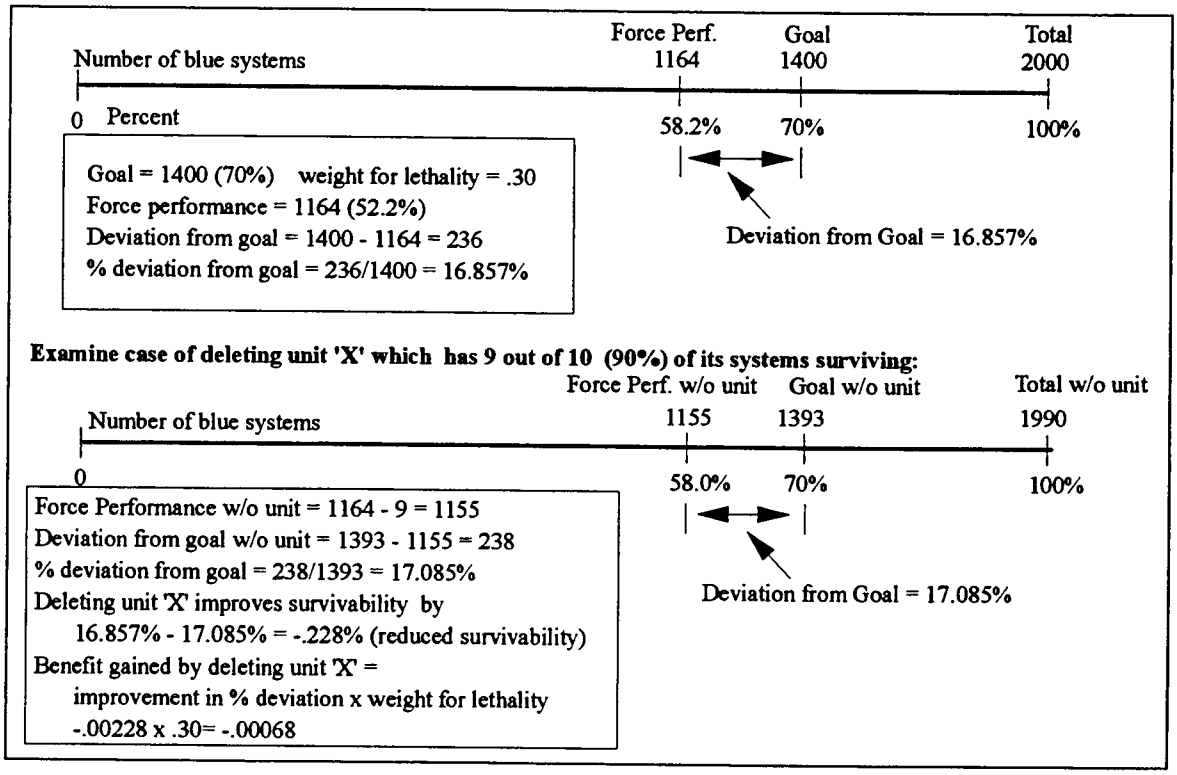


Figure G-4. Survivability Calculations.

k. After all the calculations are made to compute the benefit gained by deleting a unit for each FSC, these are summed to determine the total benefit gained by deleting the unit. Units are then rank ordered according to their total benefit gained and the units with the most benefit gained by deleting them are candidates for deletion. The number to delete of a particular type unit is determined by military judgment and the amount of benefit we want from that type unit.

3. Force Package Planner (FORP)

a. FORP is an expert system written in the C Language Integrated Production System (CLIPS)[1] designed to assist decision makers in determining which types of units should be added

[1] CLIPS is an expert system developed by the Software Technology Branch, NASA/Lyndon B. Johnson Space Center. CLIPS is designed to facilitate the development of software to model human knowledge or expertise.

or deleted from a force package. Instead of relying on the military judgment of people who may not know all of the capabilities of different units, FORP captures this expertise and allows users to search for units with specific characteristics. The expert data base was established from a conference hosted by the TRADOC Analysis Center, Studies and Analysis Center at Fort Leavenworth, Kansas in which Battle Labs and Combat Development Directorates were invited.

b. Units were assessed in six different areas. These areas were the warfighting characteristics of lethality, survivability, deployability, sustainability, tactical mobility, and force closure. Each of the warfighting characteristics were further refined to capture specific capabilities of units.

(1) Lethality

(a) •destroy systems
(b) •destroy C3I
(c) •destroy tactical ballistic missile (TBM) launchers
(d) •destroy TBMs
(e) •destroy helicopters
(f) •destroy artillery
(g) •destroy mounted air defense artillery (ADA)
(h) •destroy man portable air defense systems (MANPADS)
(i) •destroy reconnaissance

(2) Survivability

(a) •retain systems
(b) •retain soldiers
(c) •retain attack helicopters
(d) •retain lift helicopters
(e) •retain combat service support (CSS) structure
(f) •ability to prevent losses from TBMs
(g) •ability to keep airfield open with minimum losses

(3) Deployability

(a) •number of C141 planeloads required
(b) •number of C5 planeloads required
(c) •number of days to deploy force
(d) •number of fast sealift ships (FSS) required
(e) •number of prepositioned ships (PREPO) required

(4) Sustainability

(a) •sustainment requires less than 25% of total force
(b) •supplies less than lift capabilities
(c) •port capabilities

(d) •airfield capabilities

(5) Tactical mobility

(a) •ability to move supplies from within lodgment to its units
(b) •ability to move soldiers/equipment within lodgment
(c) •ability to expand lodgment

(6) Force closure

(a) •ability to retain airfield with 75% closure
(b) •ability to retain airfield with 50% closure
(c) •ability to seize airfield

c. FORP is presently a class two expert system. This implies it gives good performance but has not gained wide acceptance by the average user. FORP gives satisfactory output, but lacks an in-depth analysis explanation to satisfy the average user. Class one status can be attained with further modification and further input from the expert community.

d. Assessing the units was done using an ordinal scale. Quantitatively assessing the units would be too difficult and would lack accuracy, so qualitative assessments were used. Each of the units were assessed in their ability to improve the overall force's performance for each of the areas using the following terms (significance levels):

(1) level 1-significant improvement
(2) level 2-moderate improvement
(3) level 3-little improvement
(4) level 4-no effect
(5) level 5-little hindrance
(6) level 6-moderate hindrance
(7) level 7-significant hindrance.

e. The user then searches for units with the desired characteristics. The user can search for units that improve each of the areas where the force performed poorly. If no unit is given from FORP, then the user must relax the significance levels. Conversely, if multiple units are given from FORP, then the user can tighten the significance levels. An example best illustrates these principles. If there are three areas where the force requires better performance, the user searches for units which give significant improvement to all these areas. If no unit is returned, the user relaxes the significance level to moderate improvement and searches for units. This process is continued until a unit is returned. If multiple units are returned, the user can tighten the significance levels of certain areas if desired.

f. The purpose of FORP was to help eliminate biases and/or parochialism in selecting units to add to the force. With an expert data base built, the user can then search for units which can help

force performance in selected areas. Although FORP was designed and used for the Early Entry Force Analysis, FORP can be used for any force planning.

4. Army Lightweight Force.

a. *Army Lightweight Basecase.*

(1) An analysis of performance determined the basecase package was deficient in the warfighting characteristics of lethality and deployability. An analysis of each of the combat arms units was made in SCRAP to determine the benefit gained by eliminating all the units of one type from the force design. These benefits for each type of unit are shown in Figure G-5. The bar chart in this and subsequent figures shows the units from left to right in reverse order of the overall contribution to force performance. In general, units providing a deletion benefit above 0.05 were considered for deletion in the Army Lightweight Force adjustments. This analysis showed the most benefit would be gained by deleting Light Infantry Companies, with the deletion of M119 Batteries, HHC Infantry, Antitank Companies, OH58D(A) Companies, and AGS Companies also contributing high benefits. In the case of all the above named types of units, lethality was the main reason for deletion with deployability the next reason, which were the very characteristics in which the force needed improvement.

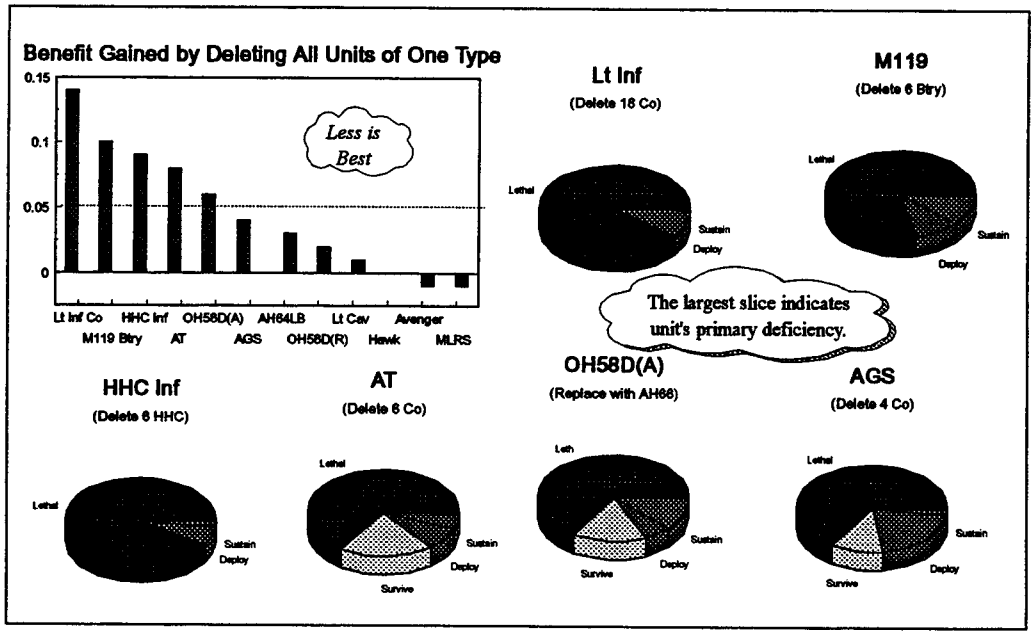
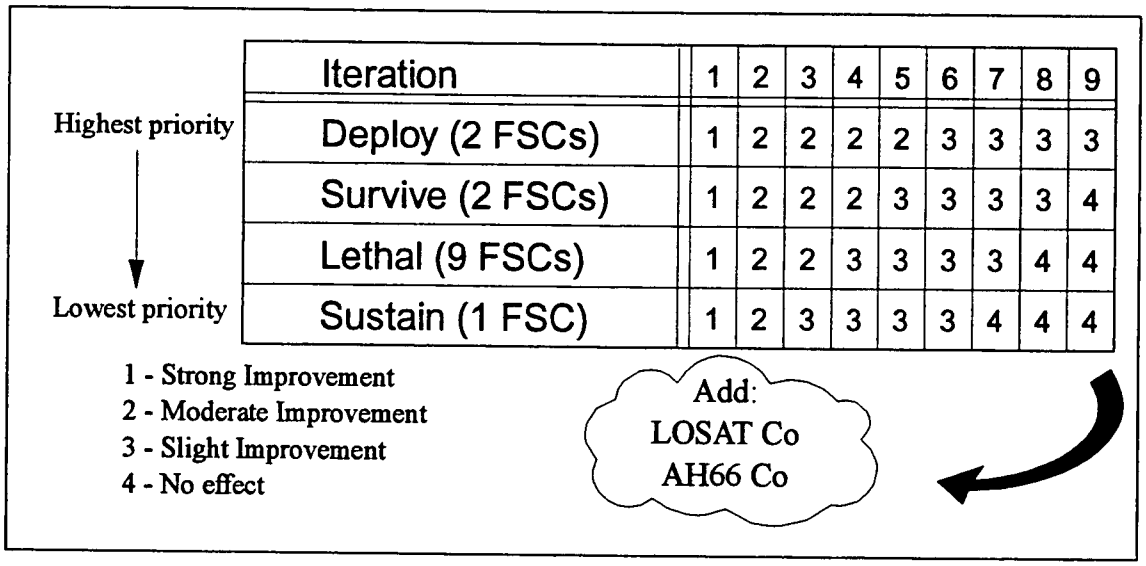


Figure G-5. SCRAP output for Army Lightweight Basecase.

(2) The expert system FORP was used to add units. The basecase force package was weak in two deployability FSC, two survivability FSC, nine lethality FSC, and one sustainability FSC. In the first iteration the system looked for those units which would result in a strong improvement in all of the characteristics. Additional iterations with changes in significance level were made until the system found units which would make the desired improvements. With the exception of the second iteration, changes in significance level were made from lower to higher

priority characteristics. A chart showing the changes in significance level from the first iteration to the last is shown in Figure G-6. The final iteration proposed the addition of LOSAT and AH66.



Iteration	1	2	3	4	5	6	7	8	9
Deploy (2 FSCs)	1	2	2	2	2	3	3	3	3
Survive (2 FSCs)	1	2	2	2	3	3	3	3	4
Lethal (9 FSCs)	1	2	2	3	3	3	3	4	4
Sustain (1 FSC)	1	2	3	3	3	3	4	4	4

Figure G-6. FORP process for improving Army Lightweight Basecase.

(3) The basecase force package needed improvement primarily in lethality and deployability. SCRAP identified Light Infantry and its support units, OH58D(A), and AGS as types of units whose deletion would improve the performance of the force package. These units were most deficient in lethality. The addition of LOSAT and AH66 would slightly improve deployability according to the output from FORP.

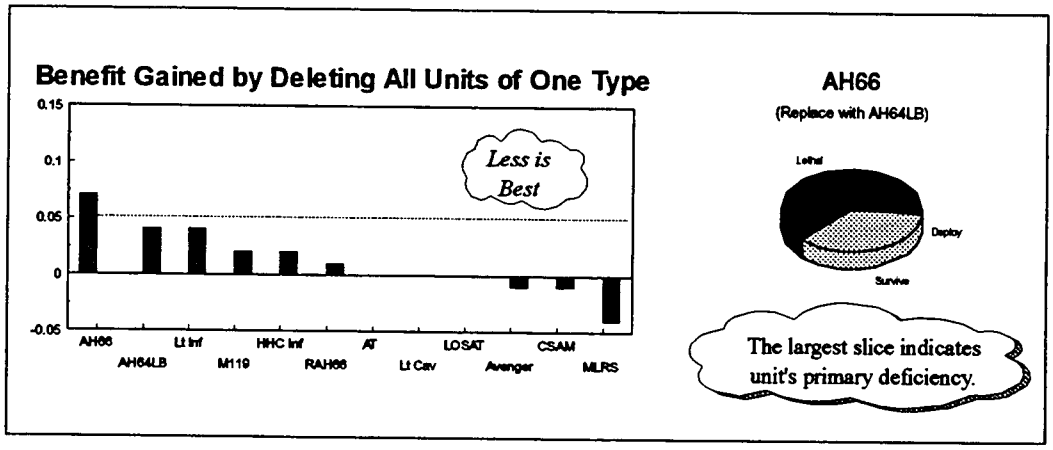


Figure G-7. SCRAP output for Army Lightweight Adjustment # 1.

b. *Army Lightweight Adjustment # 1.*

(1) Adjustment # 1 showed improvement in deployability, but still needed improvement in lethality. As shown in Figure G-7, SCRAP output indicated the force package would be improved in lethality with the deletion of AH66.

(2) Four iterations of FORP were run to improve four lethality FSC and two survivability FSC. The addition of Apache Longbow and Lightweight 155mm would moderately improve lethality and slightly improve survivability. The iteration process is shown in Figure G-8.

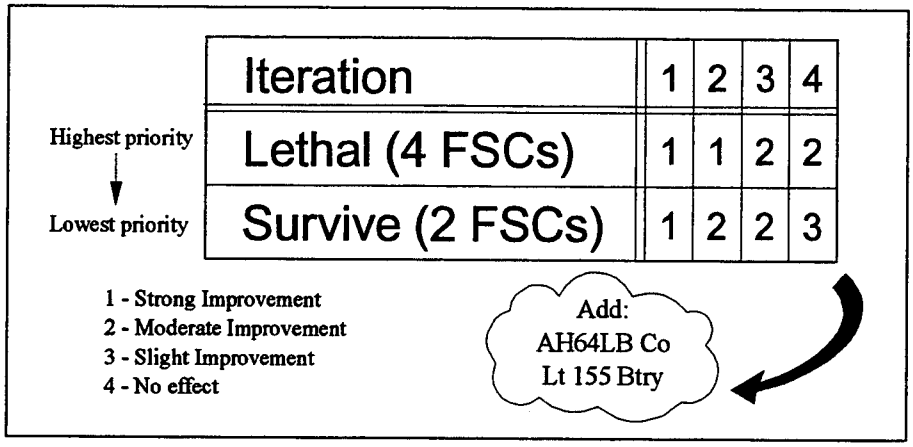


Figure G-8. FORP process for improving Army Lightweight Adj # 1

(3) In the SCRAP output AH66 with a primary deficiency in lethality was above the 0.05 level and became the candidate for elimination from the force package. The Apache Longbow was substituted for the AH66 and the Lightweight 155mm Battalion replaced the M119 Battalion based on the output from FORP. These adjustments were made in an attempt to principally improve the lethality of the force package.

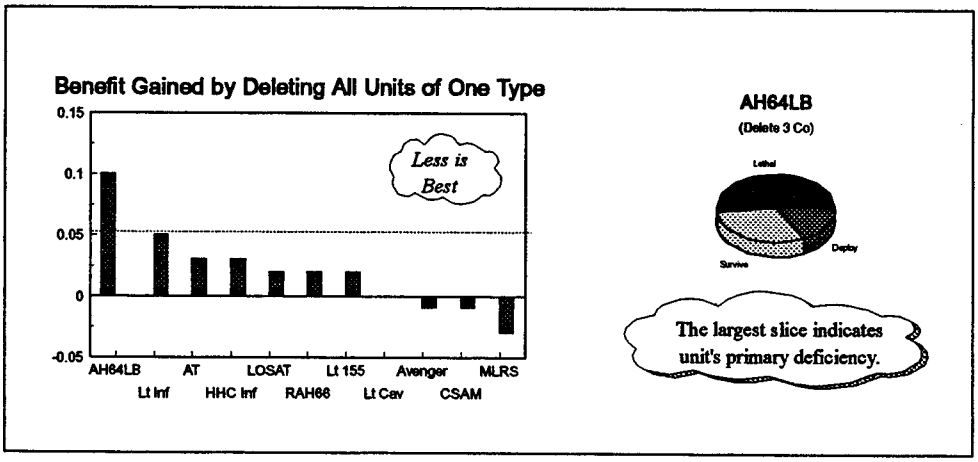
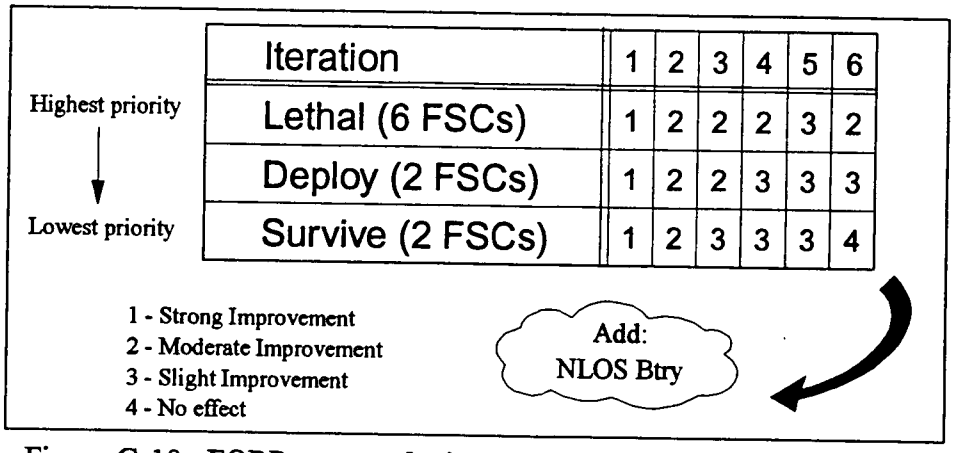


Figure G-9. SCRAP output for Army Lightweight Adjustment # 2.

c. *Army Lightweight Adjustment # 2.*

(1) While Adjustment # 2 performed better in lethality than Adjustment # 1, it still performed worse than the basecase in this characteristic. In deployability Adjustment # 2 did slightly worse than its predecessor. The output from SCRAP is shown in Figure G-9. Apache Longbow units were the only units above the 0.05 level, and the principal deficiencies for these units were lethality and survivability.

(2) The matrix of the six iterations done in FORP are shown in Figure G-10. Improvement was desired in six lethality FSC, two deployability FSC, and two survivability FSC. FORP determined NLOS would offer a moderate improvement in lethality and a slight improvement in deployability.



Iteration	1	2	3	4	5	6
Lethal (6 FSCs)	1	2	2	2	3	2
Deploy (2 FSCs)	1	2	2	3	3	3
Survive (2 FSCs)	1	2	3	3	3	4

Figure G-10. FORP process for improving Army Lightweight Adj # 2

(3) SCRAP showed Apache Longbow units were deficient in lethality and survivability and their elimination would improve the force package's performance. Addition of NLOS was proposed to moderately improve lethality and slightly improve deployability by FORP.

d. *Army Lightweight Adjustment # 3.*

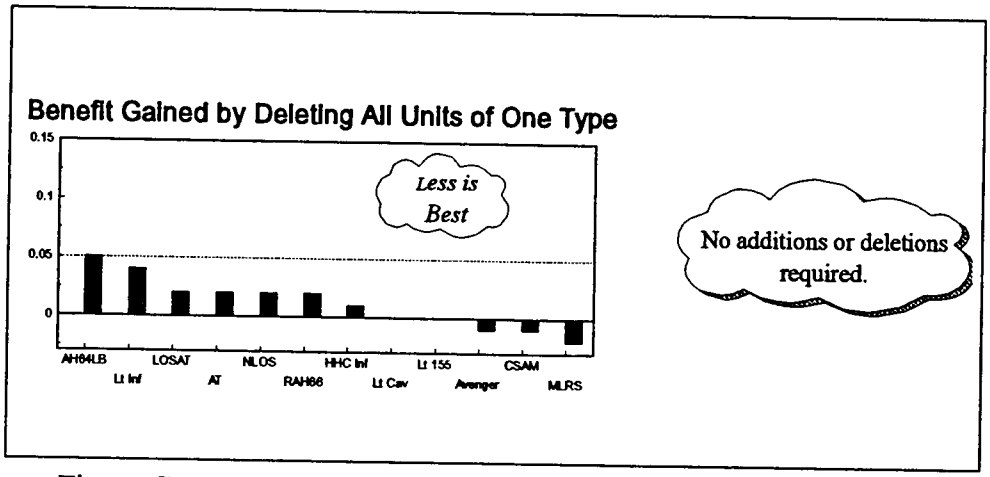


Figure G-11. SCRAP output for Army Lightweight Adjustment # 3

(1) An analysis of the performance of Adjustment # 3 indicated it was the best of the four force packages. An analysis of the units was also done in SCRAP. As shown in Figure G-11 none of the units were above the 0.05 level.

5. Army Middleweight Force.

a. *Army Middleweight Basecase.* The Army Middleweight Basecase had room for improvement in the characteristics of lethality and survivability. In the Army Middleweight Force adjustments the cutoff level for units was 0.5. The levels from the SCRAP analysis of the Basecase Force are shown in Figure G-12. Units in the PREPO Afloat were not considered for deletion and are not included in the analysis. Light Infantry and its support units, AH64LB, RAH66, and AH66 were above the cutoff level and all were most deficient in sustainability. AGS was also above the cutoff level, but was not deleted by request from the EELS BL. No units were added to the force package.

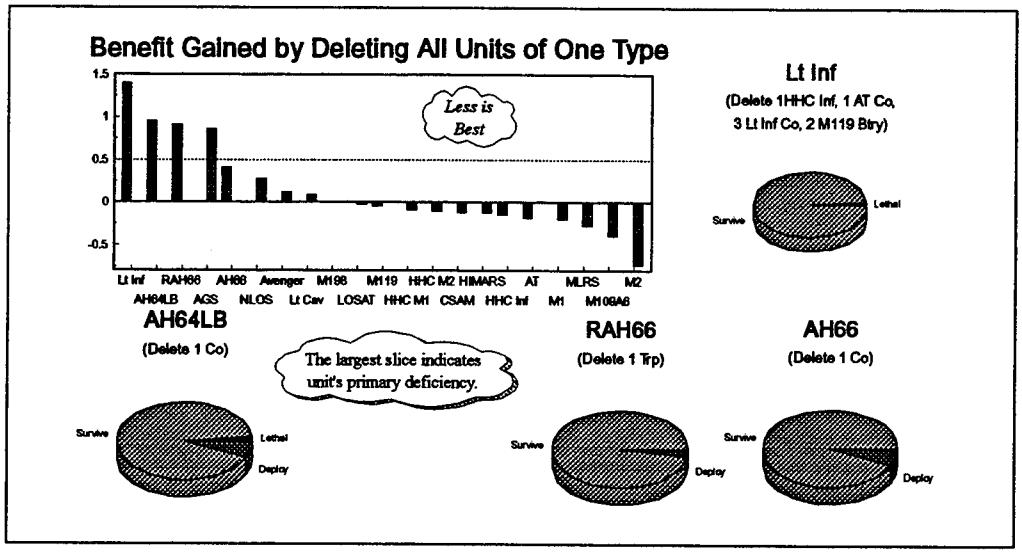


Figure G-12. SCRAP output for Army Middleweight Basecase.

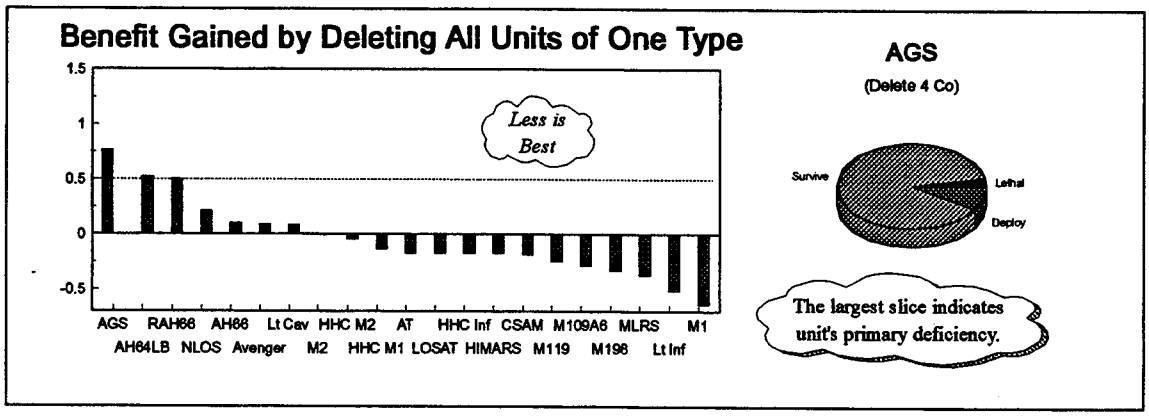


Figure G-13. SCRAP output for Army Middleweight Adjustment # 1.

b. *Army Middleweight Adjustment # 1.* Although the Adjustment # 1 Force package did perform better in deployability and sustainability, it did worse in the characteristic of survivability. There was no significant change in lethality. As shown in Figure G-13 the only type of unit above the cutoff level of 0.5 was AGS with a primary deficiency of survivability. No units were added to the force.

c. *Army Middleweight Adjustment # 2.* Adjustment # 2 was the worst of all the packages in survivability and lethality. An examination of the SCRAP analysis, shown in Figure G-14, showed all the units were below the 0.5 level. No units were candidates for deletion and none were added. The basecase package could not be adjusted to better its performance.

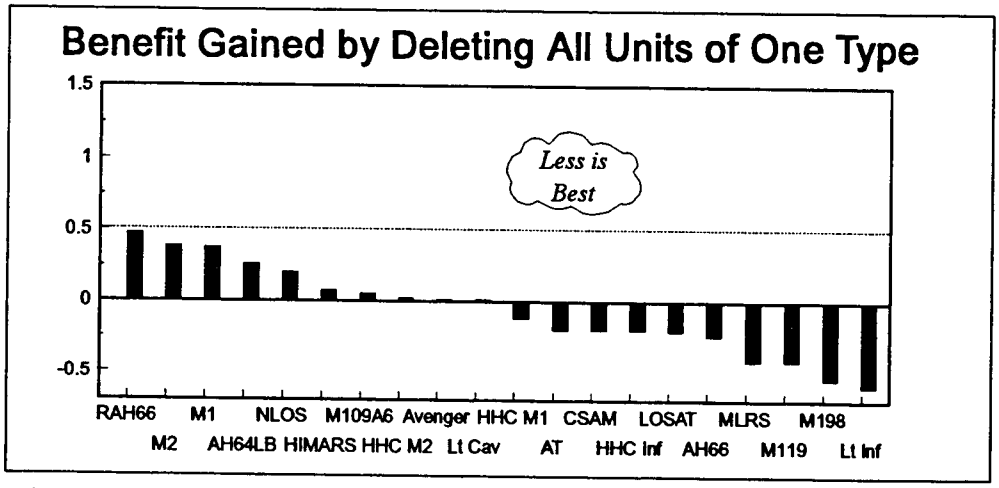


Figure G-14. SCRAP output for Army Middleweight Adjustment # 2.

APPENDIX H

GLOSSARY

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APPENDIX H

GLOSSARY

AMMO RDT	Ammunition Requirements Determination Template
AMC	Air Mobility Command
BULK POL RDT	bulk petroleum, oil, and lubricants requirements determination template
CLIPS	C Language Integrated Production System
CRAF	Civil Reserve Air Fleet
COMPASS	Computerized Movement Planning and Status System
DA	Department of the Army
ECF	Equipment Characteristics File
EELS BL	Early Entry Lethality
EFFORT	Early Entry Force Tailoring Tool
EUCOM	European Command
FORP	Force Package Planner
FORSCOM	US Army Forces Command
FSC	Force Sufficiency Criteria
JTF	Joint Task Force
LAM	Louisiana Maneuvers
LCC	Land Component Command
LER	Loss Exchange Ratio
MASS	Mobility Analysis Support System
MEF-F	Marine Expeditionary Force-Forward
MEU	Marine Expeditionary Unit
MTMC TEA	Military Traffic Management Command Transportation Engineering Agency
NMS	National Military Strategy
SAC	Study and Analysis Center
SCRAP	Sufficiency Criteria for Realignment Adjustment Processor
SME	subject matter expert
STONs	short tons
SURE	Supply Usage Requirements Estimator

SWC	Scenario and Wargaming Center
TARGET	Transportability Analysis Report Generator
TO&E	Table of Organization and Equipment
TPFDL	time-phased force deployment list
TRAC	TRADOC Analysis Center
TRADOC	Training and Doctrine Command
VIC	Vector-in-Commander

APPENDIX I

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