REPORT DOCUMENTATION PAGE	Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE 10 Oct 97	3. REPORT TYPE AND DATES COVERED Final (1 Aug 97 - 10 Oct 97)	

4. TITLE AND SUBTITLE
Combat Service Support (CSS) Vector-in-Commander (VIC) Analysis in Support of Force XXI Analyses Division Design Analysis -- Phase III CSS Analysis of VIC Dynamic Gaming Strike Division Interim Design (North East Asia 2.0)

5. FUNDING NUMBERS

6. AUTHOR(S)

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8. PERFORMING ORGANIZATION REPORT NUMBER

Technical Report
TRAC TR 1095

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

HQ TRAC
Fort Leavenworth, KS 66027-2345

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES
Provided supporting documentation for the Force XXI Division Design Analysis Phase III Division Combat Service Support Analysis.

12a. DISTRIBUTION / AVAILABILITY STATEMENT

Distribution is unlimited; approved for public release.

19980113 217

13. ABSTRACT *(Maximum 200 words)*

In 1995, TRADOC initiated the analytical process described in the March 1995 draft Joint Venture (JV) Campaign Plan. The resulting analyses provide the basis for redesigning today's Warfighting Army for the 21st century. The combat unit elements, combat service elements, and the combat service support elements needed to be analyzed individually to determine whether or not each of these sections would be able to effectively perform under the given scenario conditions. TRAC-Lee was tasked to analyze the CSS capabilities of the three (3) division designs (Conservative Heavy, Strike, Brigadist) for DDA Phase III. The three division designs were dynamically gamed using the Vector-in-Commander model in the LANTICA III, Northeast Asia 2.0, and Southwest Asia 4.2 scenarios. The CSS elements represented in VIC were analyzed by TRAC-Lee with the primary focus of the analysis was on the maintenance and supply operations and how the CSS units functioned for the given scenario.

This analysis concluded that the CSS structure in the Strike Division can support the division during a 60-hour battle such as the one portrayed in the Northeast Asia 2.0 scenario. There was one problem area in the CSS component that was focused on in this analysis. Some of the artillery units used all of their ammunition reserves and were not resupplied in a timely manner.

DTIC QUALITY INSPECTED 2

14. SUBJECT TERMS
Maintenance Analysis, Supply Analysis

15. NUMBER OF PAGES
56

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UL

GIST

STUDY TITLE: Combat Service Support (CSS) Vector-in-Commander (VIC) Analysis in Support of Force XXI Analyses Division Design Analysis – Phase III CSS Analysis of VIC Dynamic Gaming Strike Division Interim Design (North East Asia 2.0)

PURPOSE: The purpose of this analysis was to produce quantitative analysis of the Strike Division Interim Design's combat service support (CSS) structure which was dynamically gamed in the North East Asia 2.0 scenario with the VIC model. The focus of the analysis was on the maintenance and supply operations and how the CSS units functioned for the given scenario.

MAIN ASSUMPTIONS: The principal assumptions of this study include: (a) all repair parts were available upon request, (b) Echelons-Above-Division (EAD) were fully resourced, and (c) CSS enablers and other technological equipment are present.

PRINCIPAL FINDINGS: The CSS structure in the Strike Division could support the division during the 60-hour battle in the NEA 2.0 scenario with one exception. Several artillery units expended all of their ammunition resources at some time during the scenario and could not be resupplied in a timely manner.

IMPACT: This report suggests that the CSS structure in the Strike Division is sufficient to sustain the division in a scenario such as the one portrayed in NEA 2.0.

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1. TITLE OF STUDY: Combat Service Support (CSS) Vector-in-Commander (VIC) Analysis in Support
of Force XXI Analyses Division Design Analysis – Phase III CSS Analysis of VIC Dynamic Gaming
Strike Division Interim Design (North East Asia 2.0)

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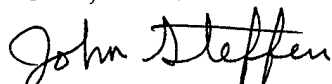
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Combat Service Support (CSS) Vector-in-Commander (VIC) Analysis in Support of Force XXI Analyses

Division Design Analysis -- Phase III CSS Analysis of VIC Dynamic Gaming Strike Division Interim Design (North East Asia 2.0).

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Combat Service Support (CSS)
Vector-in-Commander (VIC) Analysis
in Support of Force XXI Analyses

Division Design Analysis -- Phase III
CSS Analysis of VIC Dynamic Gaming
Strike Division Interim Design (NEA2.0)
01AUG97 VIC Analysis Data

1. General.

a. The Commanding General (CG) Training and Doctrine Command (TRADOC) tasked the TRADOC Analysis Center (TRAC) to conduct an analysis of the Combat Service Support (CSS) Division redesign concept. TRAC at Fort Lee, Virginia (TRAC-LEE) used Vector-in-Commander (VIC) analysis to provide quantitative analysis of that concept.

b. The dynamic gaming with the VIC model is based on the Northeast Asia 2.0 scenario with a total duration of 60 hours incremented in four hour time periods (TP) and a four (4) hour reorder cycle time between CSS units. The modeled force, the Strike Interim Division, consists of two brigades with corps support. Specific descriptions and details for both the scenario and modeled force are provided in the main report.

c. The analysis focuses first on those key maneuver unit resources necessary for a unit to perform its designated mission. The specific resources addressed are weapon system availability and the timely availability of supplies. Secondly, various aspects of the CSS system are examined to isolate bottlenecks or shortages which limit the provision of needed services. And conversely, excesses or under-utilized CSS resources are identified for this scenario.

d. The analysis entails two major areas: maintenance support and supply support. Since the medical support system for the treatment of personnel is very similar in function to that of the maintenance system, medical support is addressed along with maintenance.

e. VIC unit name designators are used in this report for brevity. Appendix A shows the cross reference between actual unit names and VIC unit names.

2. Model Description.

a. The Vector-in-Commander (VIC) model is a two-sided, deterministic simulation of integrated land and air combat. The level of resolution is the maneuver battalion. As a deterministic model, VIC relies upon expected values; weapon systems, transporters, inventories/stockage levels, and consumption can be fractional values. VIC is event stepped for maneuver elements and both time stepped and event stepped for calculation of combat service support (CSS) effects. The combat and combat support (CS) functions in VIC produce a workload for the CSS system. Two key modules within VIC are used to represent the CSS system: Return to Duty (RD – maintenance) and Logistics (LO – supply).

b. The return-to-duty (RD) module operates on equipment and noncrew personnel, both of which are referred to as systems, as well as crews for key combat vehicles.

(1) Workloads. The attrition modules generate combat casualty workload in the form of combat-damaged systems. These quantities are adjusted to factor out catastrophic damage/killed in action (KIA) and abandonments (equipment only) before becoming a workload on the RD system. Reliability failures to equipment and disease and nonbattle injury (DNBI) to personnel are also generated, resulting in their removal from units and their introduction as workload upon the RD system.

(2) Processes. The RD module contains representations of the recovery, evacuation, and repair functions.

(a) Recovery is constrained by the availability of operational recovery vehicles. Recovery operations are represented as a delay time of 57 to 96 minutes which includes round trip travel, hook-up, and drop-off. The recovery time varies from vehicle to vehicle and the primary location of that vehicle.

(b) Evacuation is constrained by the availability of operational evacuation vehicles and dynamic evacuation times that are a function of distance and time on the main supply route (MSR) network.

(c) Repair is constrained by the available strength and type of assigned mechanics or medical personnel. Of course repair throughput is impacted by the 'time to repair' but repair time is determined by design factors and not CSS. A maintenance unit's maintenance man-hours (MMH) is degraded by fifty percent when that unit has to relocate on the battlefield. This degradation is calculated to the nearest quarter of an hour; therefore, a maintenance unit's MMH during a portion of a TP could be degraded while the remaining MMH are unaffected. The degradation of MMH availability is based on the premise that a maintenance facility will have only 50 percent of it assets (to include personnel) fully functioning at any time during a battlefield relocation.

(3) Products. The final product of the RD module is the return of crewed systems to owning units. Intermediate products of the various RD processes include recovered systems, evacuated systems, and repaired systems.

(4) Combat impacts on RD processes. Impacts include attrition of RD assets, productivity degradation due to unit movement, changes in evacuation distances due to unit movements, and changes in evacuation speeds due to congestion of MSR links.

c. The logistics (LO) module provides the support structure to facilitate the resupply of ammunition, fuel, and other supplies to maneuver units and the restocking of these supplies at supply units.

(1) Workloads. The attrition modules dynamically generate the workload for ammunition as units engage in conflict. As units move and change posture they create a workload for fuel. A workload for other supplies is generated by a daily consumption rate, depending upon unit types. When maneuver units deplete their basic loads to specified reorder levels, a requirement for resupply is levied on the CSS system.

(2) Processes. The LO module contains representation of the resupply and move functions. Resupply to maneuver units is constrained by the availability of resupply vehicles, availability of supplies at supply units, load times, and travel time between the unit and its supplier. The availability of supplies at supply points is constrained by transportation, availability of load facilities, and load/unload times. The move function is constrained by the availability of CSS trucks, congestion of the MSRs, and travel times between supply units.

(3) Products. The final product for the resupply and distribution system is the replenishment of expended ammunition, fuel, and other supplies to maneuver units. Intermediate products include the restocking of resupply units and the movement of supplies along the MSRs from higher echelon supply units.

(4) Combat impacts on LO processes. Attrition and movement of supply units as a result of combat effects degrade the ability of these units to perform their resupply function. Resources which can be lost at the supply units include resupply vehicles, stocks, and materiel-handling equipment (MHE). The relocation of supply units results in degradation of their receipt/issue capability during the move. In addition, attrition of resupply vehicles, both at the maneuver unit and along the MSRs, degrades the ability of the CSS system to deliver supplies.

3. Assumptions.

  a. Maintenance characteristics and parameters of all systems remain constant across the scenario.

  b. When damaged weapon systems reach a maintenance facility, the correct tools, parts, and equipment are present at the facility. If the number of mechanics necessary to work on the damaged weapon system is available, they will begin working on the damaged weapon system immediately (i.e., prep time and time spent for damage assessment are not played in the model).

  c. The DNBI rate remains constant across the scenario.

  d. Resupply of all stockage items is available from echelons above corps (EAC).

4. Sufficiency Criteria.

  a. Equipment. Maintain 80 percent availability of systems that have not been destroyed or abandoned. Rationale: Army Regulation (AR) 220-1, Unit Readiness Reporting, defines an equipment availability status of 80-90 percent as category C2 which is fully combat ready with minor risk.

  b. Personnel.

  (1) Have no weapon systems in awaiting-reissue queue due to nonavailability of crews. Rationale: The availability of weapon systems crews affects the availability criterion for combat systems.

  (2) Maintain 80 percent personnel strength level for all modeled personnel. Rationale: AR 200-1 defines a personnel strength level of 80-90 percent as category C2 which is combat ready with minor risk.

  c. Supply. Have no zero balance of any supply-class subitem (e.g., 155mm, 120mm, POL). Rationale: The lack of a specific type could adversely affect tactical options.

5. Maintenance Analysis.

  a. The six weapon system categories covered in this analysis are shown in table M-1. The Fixed Wing category was not represented in the CSS system. In addition, medical treatment of personnel and weapon crews are presented as a separate category.

Category	Weapon System
TANK	M1A2/120
AFV	M2A3/TOW FSCS/45 BSFV-E M3A3/TOW
ADA	AVENGER
MLRS	MLRS_D
CANNON	CRUSADER-D
HELICOPTERS	AH64D SAH64D RAH66

Key Weapon Categories
Table M-1

b. The primary maintenance performance measure at the maneuver unit level is availability of unit weapon systems. Availability of unit weapon systems is determined by the current strength of weapon systems at a maneuver unit versus the initial strength less the number of catastrophically killed weapon systems at the same maneuver unit. The number of weapon systems available is a function of many dependent and interdependent factors. These factors can be partitioned into two groups: (1) those factors which render weapon systems inoperable: combat damage and reliability and (2) factors that contribute to the return of repaired systems to combat. When more weapon systems are returned to combat, a larger population is available for combat and reliability failure, which in turn workloads the Return-to-Combat (RTC) support system.

(1) Factors which cause weapon systems to become inoperable are combat damage and reliability failures. Combat damage is a function of the interaction of opposing forces resulting in catastrophic kills and repairable battle damage. The percentage of catastrophic kills versus the percentage of repairables varies by weapon system due to threat weapons and survivability characteristics. Table M-2 shows the percent repairable for each system once combat damaged. The percentages are not measures of overall survivability but are conditional results based on a weapon system first being combat damaged. Overall survivability also involves the likelihood of a weapon system being acquired and then being hit by the enemy. The percentages in table M-2 are, therefore, predicated on the occurrence of these two events.

Category	Weapon System
M1A2/120	93
M2A3/TOW	83
FSCS/45	83
BSFV-E	83
M3A3/TOW	83
AVENGER	69
MLRS-D	71
CRUSADER-D	49
AH64D	41
RAH66	41
RAH66D	41

Percent Repairable by Weapon
Table M-2

(2) Permanent losses of operational systems can occur in several ways. The most frequent is usually due to catastrophic combat damage. In addition, both types of candidate repairables (combat and reliability) are subject to weapon system abandonment at the maneuver unit or maintenance unit level. Maneuver and maintenance unit abandonment's of weapon systems occur due to immediate war-fight conditions, thus becoming permanent losses like catastrophic kills. Weapon systems can be traveling on an MSR when the scenario ends; thus these weapon systems are not considered part of a combat unit's arsenal. Another key factor which affects availability is the nonavailability of an owning unit. This occurs when a maintenance unit has repaired systems but does not have a maneuver unit in its area of influence with authorization to accept the system. In some cases, such weapons are never reissued during the scenario. Crewed weapon systems' RTC may be delayed because the appropriate number of crew members is not available to operate the weapon system. All six of these factors (catastrophic damage, abandonments, unit non-availability, weapons being reissued, and weapon systems waiting crews) are independent of the CSS system performance. Table M-3 shows the number of systems for each of these categories at the end of the scenario.

Weapon	# Weapons Waiting Units	# Weapons Waiting Crews	# Weapons Being Reissued	Maint Unit Aband's	Man Unit Aband's	K-Kills	Total
M1A2/120	0.0	0.0	0.0	2.7	3.8	2.3	8.8
M2A3/TOW	0.0	0.0	0.0	0.0	2.2	7.9	10.1
FSCS/45	0.0	0.0	0.0	0.8	2.6	2.3	5.7
BSFV-E	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M3A3/TOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVENGER	0.0	Not crewed	0.0	0.0	0.0	1.1	1.1
MLRS-D	0.0	0.0	0.0	0.0	0.0	0.5	0.5
CRUSADER-D	0.0	0.0	0.8	0.0	0.0	0.4	1.2
AH64D	0.0	0.0	0.0	0.0	0.0	6.7	6.7
RAH66D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RAH66	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Total	0.0	0.0	0.8	3.5	8.6	21.3	

Weapon System Losses
Table M-3

(3)   Reliability failures are based on mean hours between failures (MHBF) for the major subsystems of each weapon. The major subsystems for this study are Automotive, Armament, Helicopter, and Medical. Of course, the subsystems that fail or are damaged vary by weapon systems (e.g., the M1A2/120 is composed of both subsystems, automotive and armament, while only automotive is represented for the heavy equipment transporter (HET)). Each subsystem is serviced by a different mechanic type. In addition, the MHBF can vary by subsystem for each weapon. Helicopters, for this analysis, are serviced by a single type master mechanic although both automotive and armament failures occur for helicopters. In addition, all wounded/DNBI personnel are treated by a single medical type. The availability and performance of trucks used for resupply is addressed in the supply section of the report.

(4)   Factors which influence the RTC of weapon systems are recovery, evacuation, and repair (to include medical treatment of personnel and crews) resources. Each of the CSS resources which performs these services is subject to both combat damage and reliability failure, which determine their availability for weapon system processing and treatment of personnel. Recovery and evacuation are performed on a designated priority basis, while repair and treatment are based on a more complex priority system. Further complicating the impact of repair on weapon system RTC are the repair characteristics of individual weapon systems. These characteristics vary by level of repair (i.e., unit, direct support (DS), general support (GS)), and mean time to repair for each type repair (combat, reliability). These characteristics represent a very complex interrelated system which determines the number of operational weapon systems.

    c.   Analysis. The maintenance analysis is divided into three sections (Support Services Sufficiency, Key Weapon Availability, and CSS Workload):

        (1)   Support Services Sufficiency.

        (a)   Recovery - Weapons.

        1 With one exception, recovery operations serviced the recovery workload in a timely manner. "Timely manner" is defined as servicing the recovery workload within two TPs for a given maintenance unit. To meet this criterion the recovery workload at the end of one TP must be serviced in the next time period. The reason for this explanation of "timely manner" is to account for the maximum time of 96 minutes it takes for a recovery vehicle to assist in the recovery of a damaged weapon system or vehicle. If a vehicle requires an assisted recovery during the last half of the current TP, that vehicle would not reach the designated maintenance area until the next TP. The two recovery vehicles modeled are the improved recovery vehicle (M88) and a generic recovery vehicle (HMTWRECKER) which represent all other recovery vehicles which are not M88s. Table M-4 provides an overview of both recovery vehicle's status for the scenario where:

Initial Strength (stgn) is the assigned density at the start of the scenario.

End Strength (stgn) is the number operational at the end of the scenario.

End Availability is the percentage of initial strength available less the number destroyed or abandoned at the end of the scenario.

M88				HMTWRECKER			
Unit ID	Initial Stgn	End Stgn	End Availability	Unit ID	Initial Stgn	End Stgn	End Availability
B3000DC	2	1.9	93	B3000DC	1	1.0	99
B3000M2	1	0.9	88	B3000LH	2	2.0	100
B3000MX	4	3.5	86	B3000M2	1	1.0	99
B3001DC	1	0.8	79	B3000MX	3	3.0	99
B3001H2	4	3.6	89	B3001H2	1	1.0	99
B3002DC	1	0.8	82	B3002H2	1	1.0	99
B3002H2	4	3.6	89	B30100H	3	3.0	100
B3003DC	1	0.0	0	B3010MX	16	15.5	97
B3010MX	8	7.0	87	B3011MX	3	2.7	91
B3011MX	7	5.3	76	B3012MX	3	3.0	100
B3012MX	7	6.2	88	B3013AR	3	3.0	99
B3013AR	6	4.9	82	B3014AR	3	3.0	99
B3014AR	6	5.1	84	B3020AR	16	15.9	99
B3020AR	8	6.7	83	B3021MX	3	3.0	99
B3021MX	7	6.1	87	B3022MX	3	3.0	99
B3022MX	7	6.1	87	B3023AR	3	3.0	100
B3023AR	6	5.1	86	B3024AR	3	3.0	99
B3024AR	6	4.8	80	B30A00H	1	1.0	100
				B30C00H	1	1.0	100

M88 and HMTWRECKER Ending Availabilities
Table M-4

The "end availability" is a reliable indicator of availability and recovery support throughout the scenario. Table M-5 provides the combined recovery operations for all divisional maintenance units by TP.

TP	1	2	3	4	5	6	7	8
# RECOV.	44.7	51.5	50.5	49.7	49.9	49.3	49.0	49.5
WAITING RECOV.	14.1	16.7	19.0	19.3	21.1	22.8	22.6	25.2
TP	9	10	11	12	13	14	15	
# RECOV.	49.1	48.4	60.4	56.3	43.1	43.0	38.0	
WAITING RECOV.	28.3	29.9	40.6	36.7	38.0	38.6	36.5	

Recovery Operations for All Divisional Maintenance Units
Table M-5

2 Recovery operations for the DSB's HMTWRECKERs are listed in table M-6. As early as TP 4, the number of vehicles which needed to be recovered to the DSB by a HMTWRECKER was too large to be handled by the three HMTWRECKERs at this unit. As many as 29 vehicles (TP 14) had to wait for HMTWRECKERs to become available in order to be recovered. Among these vehicles were twenty-three 22-ton cargo trucks and six 5000 gallon fuel tankers.

TP	1	2	3	4	5	6	7	8
# RECOV.	9.3	9.8	9.8	9.8	9.8	9.8	9.7	9.8
WAITING RECOV.	4.6	7.1	9.1	10.3	11.9	13.2	13.9	15.6

TP	9	10	11	12	13	14	15
# RECOV.	9.8	9.8	9.8	9.8	9.8	9.8	9.7
WAITING RECOV.	18.0	20.2	23.5	26.7	29.1	29.5	28.0

HMTWRECKER Recovery Operations for the Division Support Battalion
Table M-6

    <u>3</u> Table M-7 lists the recovery workload for all maintenance units by recovery vehicle type.

Maintenance Unit	Recovered by			Maintenance Unit	Recovered by		
	HMTWRECKER	M88	TOTAL		HMTWRECKER	M88	TOTAL
B3000DC	1	1	2	B3011MX	3	15	18
B3000LH	0	0	0	B3012MX	3	17	20
B3000M2	2	1	3	B3013AR	3	20	24
B3000MX	174	13	187	B3014AR	3	14	17
B3001DC	0	5	5	B3020AR	49	42	90
B3001H2	9	6	15	B3021MX	3	13	16
B3002DC	0	5	5	B3022MX	3	13	16
B3002H2	9	6	15	B3023AR	3	13	17
B3003DC	0	2	2	B3024AR	3	15	19
B30100H	153	0	153	B30A00H	0	0	0
B3010MX	50	85	135	B30C00H	0	0	0

Recovery Workload (by M88 and HMTWRECKER)
Table M-7

    <u>3</u> Conclusion:

> HMTWRECKER recovery shortfalls existed at the DSB from TP 4 on. Three HMTWRECKER could not handle the workload produced by this scenario.

    (b) Recovery - Personnel.

        The recovery of injured personnel is implied; therefore, injured personnel do not require a recovery vehicle for transport from the battlefield to a medical facility. This phenomenon negates the possibility of a backlog of injured personnel needing recovery. Hence, personnel RTC will never be impeded by recovery assets.

    (c) Evacuation - Weapons.

    <u>1</u> Evacuation support is performed in the scenario by HETs and a generic evacuation vehicle. The purpose of the generic evacuation vehicle is to represent the backhaul capability of other transporters. The analysis focuses on the HETs because they are considered potential constraints on evacuation. All but six of the key weapon systems utilize HETs for evacuation. The exceptions are AH64D, SAH64D, RAH66, RAH66D, AVENGER, and the PATRIOT. Only the performance of HETs is addressed. Weapon system evacuations are performed in a "timely manner" if damaged weapon systems are evacuated to the designated area (corps or division) within two TPs of the sustained damage.

    <u>2</u> Evacuation in this scenario is supported at the division area (unit B3000MX) and at the corps area (unit B000000) with 24 and 30 HETs assigned, respectively. Evacuations occur for two reasons:

- designation of maintenance support at higher support levels.

- lengthy clockhour repair times (any vehicle or weapon system that requires more than seven clockhours to repair will be sent to the corps support area (forward) so it will not 'tie up' mechanics at the ORG level with maintenance work that requires a considerable amount of time).

- maintenance overflow (maintenance overflow occurs when the number of hours needed to repair awaiting weapon systems exceeds a maintenance man hour threshold set for a maintenance unit).

<u>3</u> Across the scenario, a maximum of two percent of the corps area's HETs and six percent of the division area's HETs were not available at any given TP, all due to RAM damage.

<u>4</u> There were 159 vehicle and weapon system evacuations to the corps area which required a HET (refer to table M-8). These vehicles and weapon systems included 122 AVLBs, 23 M1A2/120s, 8 M3A2/TOWs, 3 M2A2/TOWs, and 2 M577s. All of these vehicles and weapon systems were evacuated to the corps area in a "timely manner."

TP	1	2	3	4	5	6	7	8
# RECOV.	5.6	13.1	16.2	16.6	14.1	12.2	11.7	10.9
WAITING RECOV.	5.0	7.1	11.9	11.4	10.0	9.4	9.1	8.3
TP	9	10	11	12	13	14	15	
# RECOV.	9.9	9.2	8.4	8.2	8.0	7.7	7.3	
WAITING RECOV.	8.1	8.6	8.6	8.5	8.2	7.8	7.5	

Evacuation Workload - Corps Area
Table M-8

<u>5</u> There were 63 vehicle and weapon system evacuations to the division area which required a HET (refer to table M-9). These 63 vehicles and weapon systems were 37 AVLBs, 15 M2A2/TOWs, and 10 M1A2/120s. All 63 of these weapon systems were evacuated to the division area in a "timely manner."

TP	1	2	3	4	5	6	7	8
# RECOV.	3.2	5.0	4.5	4.0	4.1	3.7	3.3	3.5
WAITING RECOV.	0.4	0.3	0.3	0.4	0.4	0.6	0.7	0.8
TP	9	10	11	12	13	14	15	
# RECOV.	3.2	3.1	11.1	6.5	4.1	1.9	1.7	
WAITING RECOV.	0.9	1.0	0.9	1.5	0.4	0.3	0.3	

Evacuation Workload - Division Area
Table M-9

<u>6</u> Conclusion:

Evacuation is not a constraint on weapon system RTC.

(d) Evacuation - Personnel.

This function was not represented in the VIC model, therefore, no personnel evacuation output data was available for analysis.

(e) Repair - ground based weapons.

1 Sufficient repair support is determined by the availability of required mechanic types at the supporting maintenance facility for ORG/DS and GS levels. For the most part, FORCE XXI mechanics in the DISCOM are modular in that they can repair both ORG and DS level damaged vehicles. Table M-10 shows, for assigned ORG/DS level mechanics, the maximum MMH percentage utilized for each of the 26 maintenance facilities across the scenario. When this percentage is 100, sufficient mechanics were not available to service the workload (note shaded cells) at some point during the scenario.

Unit Name	Armament		Automotive		Helicopter		Medical	
	Util. %	Str.	Util. %	Str.	Util. %	Str.	Util. %	Str.
B000000	10	78	100	100			42	65
B000CFC	0	185	3	658			2	875
B300002	0	14	6	21			72	3
B3000AD	10	7	21	12			91	3
B3000DC	75	12	38	18			27	7
B3000LH	1	2	5	17	9	81	76	3
B3000M2	7	25	9	38			40	9
B3000MX	11	119	21	251			26	133
B3001DC	30	5	69	9			9	6
B3001H2	0	11	37	17			32	12
B3002DC	43	5	82	9			11	6
B3002H2	0	11	37	17			32	12
B3003DC	26	5	16	9			6	6
B30100H	0	22	11	120	0	211	30	11
B3010MX	8	37	76	87			34	35
B3011MX	72	19	100	28			28	23
B3012MX	68	19	55	28			29	23
B3013AR	88	21	72	32			12	42
B3014AR	27	21	48	32			9	42
B3020AR	2	37	43	87			17	35
B3021MX	18	19	40	28			17	23
B3022MX	18	19	40	28			17	23
B3023AR	38	21	36	32			10	42
B3024AR	41	21	36	32			9	42
B30A00H	2	2	11	17	2	133	100	3
B30C00H	1	2	6	15	1	110	59	3

Utilization and Initial Strength by ORG/DS Level Mechanics
Table M-10

2 There is one exception to the above described 100 percent indicator – maintenance backlog overflow. Resource status is reported only at the end of a TP thus making it possible that 100 percent utilization occurred within the TP but shows less at the end of the TP due to completion or repairs. So the condition can exist where the ending TP utilization is less than 100 percent but within a TP conditions existed that caused maintenance backlog overflow.

3 In general, for those facilities with less than 100% utilization at the end of a TP, sufficient maintenance resources were always available. There were only minor exceptions when very small fractional workloads were evacuated due to backlog status and the MMH utilization was not 100%. Any under-utilized resources are not necessarily "excesses" but are indicators of the magnitude of the workload for this scenario. Force structure implications are not addressed in this report.

4 Figure M-1 shows the MMH utilization by mechanic type for those maintenance units with 100 percent utilization.

5 Figure M-1 shows the ORG/DS automotive mechanic utilization for the FSC supporting the 1st mechanized infantry battalion of the 1st brigade (unit B3011MX). This was the only unit within the DISCOM that had any maintenance problems. This FSC's (unit B3011MX) automotive mechanics became 100% utilized during TP 13, this is the only TP in which this occurred (see Figure M-1). Maintenance overflow occurred at this maintenance facility, but the number of vehicles and weapon systems recovered to the BSC was minimal. A very small number of vehicles and weapon systems were waiting for automotive mechanics to become available during TP 13 which would indicate that the number of automotive mechanics at this FSC was sufficient to handle the workload produced during this scenario.

% UTILIZATION

TP	1	3	4	6	7	9	10	12	13	15
B3011MX	1	16	19	39	35	40	34	72	100	9
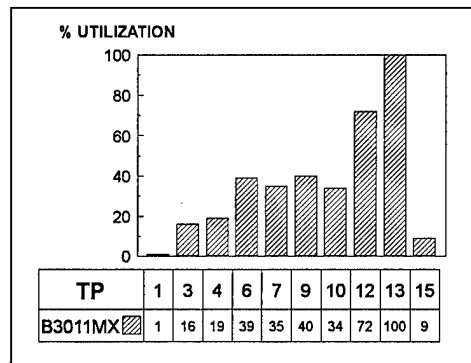
Automotive Mechanic Utilization the FSC supporting
the 1st battalion of the 1st brigade (unit B3011MX)
Figure M-1

6 Table M-11 shows the GS level mechanic utilization at the CORPS level.

Unit Name	Armament		Automotive		Helicopter		Medical	
	Util. %	Str.	Util. %	Str.	Util. %	Str.	Util. %	Str.
CSB(DS)	91	50	100	90	1	271	46	63

Utilization and Initial Strength by GS Level Mechanics
(This workload was produced by damaged weapon systems and
vehicles which require more than seven clock hours to repair)
Table M-11

— The automotive mechanics at the CSB(DS) were 100 percent utilized from TP 6 on. The largest buildup of unserviced weapon systems occurred during TP 14 with 30 M88s, 17 M2A3/TOWs, 9 M1A2s, 9 MLRS, 9 FSCS/45s, and 2 CRUSADERs. So with 90 automotive mechanics, the CSB(DS) had difficulties with the workload produce during this scenario.

7 Conclusion:

No maintenance units within the DISCOM constrained key weapon sytem RTC.

(f) Repair - helicopters.

Note: The AH64D & SAH64D (Apache) and the RAH66D & RAH66 (Comanche) are the systems represented by the helicopter weapon system category.

1 Sufficient helicopter repair support is determined by the availability of required helicopter mechanics at the supporting maintenance facility. The number of helicopter mechanics assigned to the helicopter battalions, the corps area, and division area can be found in tables M-10 through M-11. Note from these tables that none of the

helicopter maintenance facilities had their mechanics 100% utilized during any TP of the scenario.

       2 Recovery - The AH64D, SAH64D, RAH66, and the RAH66D do not require assisted recovery. If one of these helicopters receives non-catastrophic damage, that helicopter is assumed to self-recover. Helicopter RTC will never be impeded by recovery assets.

       3 Evacuation - The AH64D, RAH66, and the RAH66D do not require a HET for evacuation. Instead, a generic evacuation vehicle is used to evacuate AH64Ds and RAH66Ds. The availability of HETs does not hamper the process of helicopter evacuation.

       4 Conclusion:

> None of the three CSS assets (recovery, evacuation, and repair) restricted helicopter RTC during the scenario.

    (g) Medical treatment.

       1 Personnel can be in one of the following three categories: combat ready, medical treatment process, or KIA. When injured personnel arrive at a medical facility, they receive treatment immediately, have to wait for the next available medic, or have to be evacuated to a higher echelon because of the severity of the wound. After treatment, injured personnel are returned to their respective unit. At TP 15, the theater's Blue troop force was at 94%, its lowest availability during any TP of the scenario (refer to table M-12).

TP	Combat Ready	Being Treated	KIA	% AVAIL
0	13,292	0	0	100
1	13,251	41	0	100
2	13,185	107	0	99
3	13,204	88	0	99
4	13,215	77	0	99
5	13,149	143	0	99
6	13,174	118	0	99
7	13,211	81	0	99
8	13,145	147	0	99
9	13,167	125	0	99
10	12,921	290	81	98
11	12,482	618	192	95
12	12,315	710	267	95
13	12,312	712	268	95
14	12,211	799	282	94
15	12,209	800	282	94

Theater Personnel Profile
Table M-12

       2 During the course of the scenario, the majority of personnel that are not combat ready are being treated or awaiting treatment at the corps area. When injured personnel have to be evacuated to corps, their severe injuries take approximately six days to treat; therefore, those persons will not return to duty for the remaining part of the scenario.

       3 While the combined totals of the theater's Blue troop forces always remained above the 80% availability sufficiency criterion, three units (units B3011MX, B3012MX, and B3031LT) fell below this criterion for two or more consecutive TPs. These

units are listed in table M-13 along with their troop combat availability percentage. The increase of combat intensity in the later part of the scenario and the treatment time of injured troops evacuated to the corps area are the two factors that contribute to the low troop availability at these units.

TP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B3011MX	100	99	99	99	99	99	99	99	99	98	98	60	60	60	60
B3012MX	100	99	99	99	99	99	99	99	99	99	75	79	78	78	80
B3031LT	100	99	99	99	99	99	99	99	99	69	56	65	72	71	76

Percentage of Personnel Available
Table M-13

    <u>4</u> Conclusion:

> Medical repair teams organic to echelons lower
> than division did not constrain personnel RTC.

    (2) Key Weapon Availability.

    (a) Up to this point the analysis has addressed individual CSS support services (recovery, evacuation, repair, medical treatment) and their impact on RTC. With the exceptions noted, for the most part each of these support services was sufficient for the available workloads.

    (b) The following section of the report, in effect, examines the cumulative effects of CSS services by looking at the availability of key weapons. Tables M-16 through M-26 provide unit level overviews for each key weapon system.

    <u>1</u> Each table (M-16 through M-26) contains the following information:

    -Initial Strength (stgn) - weapon system density at the start of the scenario.

    -End Strength (stgn) - weapon system density at the end of the scenario.

    -Permanent Losses (K-kills) - catastrophic kills and abandonments.

    -End % availability - weapon system availability at the end of the scenario. This availability calculation excludes permanent losses in conformance with the earlier described sufficiency criteria. Permanent losses are excluded because their occurrence is independent of how well (or poorly) CSS performs.

    <u>2</u> Two phenomena appearing in the following tables warrant discussion:

    <u>a</u> A "dead unit" is indicated when the "end strength" and "availability" are zero. A "dead unit" occurs when significant unit resources are decimated and that unit can no longer effectively function. Its surviving resources, damaged and undamaged, are distributed to repair or other units requiring weapons, respectively. The row in each table for dead units is shaded.

    <u>b</u> One would expect the "end strength" to always be smaller than initial strength <u>if</u> there were permanent losses. This is not always the case because of the need based reissue of repaired (and crewed) weapons. Depending on the current available strength of a weapon, reissues are distributed proportionally higher to those units with the greatest need (lowest current strength) and not to the unit which originally "owned" the weapon.

    (c) Results:

      1 All weapon systems meet the availability sufficiency criteria (80%) except for the following cases listed in table M-14. The reason for this phenomenon will not be analyzed.

Weapon System	Unit	End % Avail	Weapon System	Unit	End % Avail
M1A2/120	B3001DC	42	M2A3/TOW	B3011MX	17
M1A2/120	B3002DC	60	M2A3/TOW	B3012MX	71
M1A2/120	B3003DC	0	M2A3/TOW	B3013AR	44
M1A2/120	B3011MX	74	FSCS/45	B3001DC	68
M1A2/120	B3012MX	57	FSCS/45	B3002DC	43
M1A2/120	B3013AR	39	FSCS/45	B3003DC	0
M1A2/120	B3014AR	78	FSCS/45	B3013AR	65
M1A2/120	B3021MX	78	SAH64D	B30A00H	5
M1A2/120	B3024AR	71			

Units with Below 80 Percent of any Key Weapon System
Table M-14

      2 The following table lists the only unit that was rendered combat ineffective ("dead") during the scenario, the time that the unit became ineffective, and the major weapon system(s) organic to that unit.

Ineffective "Dead" Unit	Time	Major Weapon Systems
B3003DC	43.16	M1A2/120, FSCS/45

Units Rendered Combat Ineffective During the Scenario
Table M-15

      3 Conclusion:

> The CSS system did not constrain weapon system availability.

Reference (b).1). of Section (2), Key Weapon Availability -- end % availability is the weapon system availability at the end of the scenario. This availability calculation excludes permanent losses in conformance with the earlier described sufficiency criteria. Permanent losses are excluded because their occurrence is independent of how well (or poorly) CSS performs.

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B3001DC	9	3.7	0.4	42
B3002DC	9	5.3	0.2	60
B3003DC	9	0.0	2.7	0
B3011MX	14	9.9	0.5	74
B3012MX	14	7.5	0.8	57
B3013AR	30	10.9	2.0	39
B3014AR	30	22.8	0.8	78
B3021MX	14	10.8	0.2	78
B3022MX	14	11.3	0.3	82
B3023AR	30	24.1	0.4	81
B3024AR	30	20.8	0.6	71
Total Permanent Losses			8.8	

M1A2/120 Status
Table M-16

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B3010MX	3	2.75	0.03	93
B3011MX	30	4.3	4.1	17
B3012MX	30	19.14	2.98	71
B3013AR	14	5.46	1.51	44
B3014AR	14	11.74	0.25	85
B3020AR	3	2.81	0.05	95
B3021MX	30	24.53	0.3	83
B3022MX	30	25.48	0.35	86
B3023AR	14	11.92	0.35	87
B3024AR	14	11.35	0.19	82
Total Permanent Losses			10.1	

M2A3/TOW Status
Table M-17

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B300AAD	2	1.9	0	97
B300BAD	2	1.9	0	96
Total Permanent Losses			0.0	

M3A3/TOW Status
Table M-18

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B300AAD	8	7.2	0	90
B300BAD	8	7.2	0	90
Total Permanent Losses			0.0	

BSFV-E Status
Table M-19

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B3000DC	2	1.9	0.1	96
B3001DC	13	8.5	0.6	68
B3002DC	13	5.1	1.1	43
B3003DC	13	0.0	0.9	0
B3010RE	13	11.4	1.6	100
B3011MX	6	4.8	0.2	83
B3012MX	6	5.5	0.2	94
B3013AR	6	3.4	0.8	65
B3014AR	6	5.2	0.1	88
B3020RE	13	12.6	0.1	98
B3021MX	6	5.0	0.1	84
B3022MX	6	5.2	0.1	87
B3023AR	6	5.5	0.0	92
B3024AR	6	5.2	0.0	87
Total Permanent Losses			5.7	

*FSCS/45 Status
Table M-20

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B3000LH	2	2.0	0	100
B3000MX	6	5.9	0	99
B3004EN	4	3.9	0	98
B300AAD	6	5.8	0	96
B300AM2	2	1.9	0	97
B300BAD	6	5.7	0	95
B300BM2	2	2.0	0	100
B300CM2	2	2.0	0	100
B300DSB	6	5.9	0	99
B30100H	6	6.0	0	100
B301FSB	3	3.0	0	99
B302FSB	3	3.0	0	99
B30A00H	2	2.0	0	100
B30C00H	2	2.0	0	100
Total Permanent Losses			0.0	

AVENGER Status
Table M-21

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B300AM2	9	7.4	0.5	87
B300BM2	9	8.8	0.0	98
B300CM2	9	8.8	0.0	98
Total Permanent Losses			0.5	

MLRS-D Status
Table M-22

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B3001H2	24	20.9	0.4	89
B3002H2	24	22.0	0.0	92
Total Permanent Losses			0.4	

CRUSADER-D Status
Table M-23

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B30A00H	20	14.4	4.0	89
Total Permanent Losses			4.0	

AH64D Status
Table M-24

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B30A00H	12	0.6	0.0	5
Total Permanent Losses			0.0	

SAH64D Status
Table M-25

Unit ID	Initial Stgn	End Stgn	K-Kills	End % Avail
B3000LH	24	22.0	0.1	92
Total Permanent Losses			0.1	

RAH66 Status
Table M-26

(3) CSS Workloads. The following CSS workloads are provided to show the type and magnitude of workload serviced by each unit.

(a) Recovery and evacuation vehicle workload. The second column in table M-27 indicate the number of vehicles that required assisted recovery from their owning unit. The third through sixth columns show the number of vehicles that required evacuation 'in' and 'out' of a higher echelon maintenance unit; also indicated is whether or not the vehicle required a HET for evacuation.

Maint Unit	Total # of assisted recoveries		# EVAC'D IN		# EVAC'D OUT	
	HMTWRECKER	M88	TOTAL	w/ HET	TOTAL	w/ HET
B3000DC	0.8	1.5			12.4	8.4
B3000LH	0.3					
B3000M2	2.1	0.7				
B3000MX	146.1	12.9	67.8	62.8	40.6	40.6
B3001DC		5.1			5.5	5.2
B3001H2	8.7	6.0				
B3002DC		4.7			7.2	6.9
B3002H2	9.1	6.1				
B3003DC		2.3			2.8	2.5
B30100H	152.9					
B3010MX	50.4	85.0			18.7	18.7
B3011MX	3.3	15.0			2.4	1.1
B3012MX	3.1	17.0			2.4	0.6
B3013AR	3.4	20.2			3.1	1.1
B3014AR	3.4	14.0				
B3020AR	48.8	41.6			18.4	18.4
B3021MX	3.2	12.5				
B3022MX	3.3	12.8				
B3023AR	3.5	13.2				
B3024AR	3.5	15.1				
B30A00H	0.4					
B30C00H	0.4					

Recovery and Evacuation Workload
Table M-27

(b) Medical team workload. Table M-28 shows the number of personnel that arrived at a medical facility during the scenario due to combat and non-combat (DNBI) actions. The last column displays the number of treatment man hours expended by all medical teams.

MEDICAL UNIT	CBT MEDICAL RECOVERED	DNBI MEDICAL RECOVERED	MMH EXPENDED	MEDICAL UNIT	CBT MEDICAL RECOVERED	DNBI MEDICAL RECOVERED	MMH EXPENDED
B000000	524.7	330.9	1,149.8	B30100H	0.0	33.9	75.0
B000CFC	2,633.3	1,605.5	21,143.5	B3010MX	0.4	67.0	149.1
B300002	0.0	12.0	26.7	B3011MX	6.4	19.2	51.1
B3000AD	0.0	15.1	33.9	B3012MX	4.4	20.3	50.7
B3000DC	0.0	8.7	20.9	B3013AR	2.8	19.3	46.9
B3000LH	0.1	14.4	34.6	B3014AR	0.3	20.6	46.0
B3000M2	0.1	19.1	42.9	B3020AR	0.0	31.7	69.9
B3000MX	8.1	168.0	381.6	B3021MX	0.0	22.4	49.3
B3001DC	0.1	2.0	4.8	B3022MX	0.0	22.4	49.3
B3001H2	0.1	21.8	48.3	B3023AR	0.7	20.5	46.6
B3002DC	0.2	2.0	5.1	B3024AR	0.3	20.6	46.2
B3002H2	0.0	21.9	48.2	B30A00H	1.9	19.2	36.9
B3003DC	0.0	1.3	3.1	B30C00H	0.0	13.7	31.9

Medical Unit Workload
Table M-28

(c) Maintenance team workload. Table M-29 shows the number of vehicles (both ground and air) that were recovered to a maintenance facility during the scenario. The

last four columns display the number of maintenance man hours expended on ground and air vehicles and the estimated number of maintenance man hours required at TP 15 to repair all vehicles at the maintenance facilities.

| MAINT UNIT | # VEHICLES RECOVERED | | GROUND VEHICLES | | HELICOPTERS | |
	CBT DAMAGE	RAM DAMAGE	MMH EXPENDED	MMH NEEDED	MMH EXPENDED	MMH NEEDED
CSB(DS)	63.4	893.8	4,365.5	3,875.1	85.7	3.3
CORPS(R)	28.8	377.0	850.2	122.2		
B300002	0.0	8.0	11.6	0.2		
B3000AD	0.0	15.1	25.1	0.4		
B3000DC	0.0	11.6	87.4	3.3		
B3000LH	0.0	32.6	15.3	0.2	101.8	0.8
B3000M2	0.3	23.3	37.2	0.3		
B3000MX	9.7	277.2	488.2	23.6		
B3001DC	4.7	7.9	33.0	0.7		
B3001H2	0.1	24.1	50.9	1.2		
B3002DC	5.1	8.2	28.9	0.8		
B3002H2	0.0	24.8	51.9	1.4		
B3003DC	0.4	6.2	15.9			
B30100H	0.0	181.0	251.8	4.2		
B3010MX	4.9	186.6	614.7	71.5		
B3011MX	44.5	33.5	193.1	3.3		
B3012MX	14.3	35.5	166.0	4.0		
B3013AR	17.2	36.7	190.7	4.0		
B3014AR	3.3	39.0	148.6	5.9		
B3020AR	0.0	135.8	326.0	58.6		
B3021MX	0.0	37.0	121.9	4.2		
B3022MX	0.1	37.4	123.5	4.0		
B3023AR	3.8	39.5	140.4	10.4		
B3024AR	4.2	39.4	142.0	19.6		
B30A00H	0.0	25.2	16.6	0.2	28.1	
B30C00H	0.0	17.1	16.7	0.2	35.6	2.0

Maintenance Unit Workload
Table M-29

    (4) Observations.

1) HMTWRECKER recovery shortfalls existed at the DSB from TP 4 on.
Three HMTWRECKER could not handle the workload produced by this scenario.

2) Evacuation is not a constraint on weapon system RTC.

3) No maintenance units within the DISCOM constrained key weapon sytem RTC.

4) None of the three CSS assets (recovery, evacuation, and repair) restricted helicopter RTC during the scenario.

5) Medical repair teams organic to echelons lower than division did not constrain personnel RTC.

6) The CSS system did not constrain weapon system availability.

6. Supply Analysis.

a. This analysis assesses the CSS system's capability to support combat and combat support units for the defined scenario. The CSS units must fill requests for replenishment stockages in a "timely fashion;" failure to do so can be attributed to lack of transporters, lack of stockages, long order-to-delivery times, or a combination of the three.

b. Analysis. This analysis is structured into two parts: supply class III and supply class V.

(1) Supply Class III.

(a) Requirement. For the scenario, the requirement for class III (petroleum) was found by summing the consumption (quantities "used" plus quantities "lost") of all maneuver units (CSS units were excluded from this computation) during each TP. Calculated in "gallons (gals)," the requirement for class III for the length of the scenario is presented in table L-1.

The consumption of supplies generates a requirement for stocks of supply types as well as transportation assets to deliver the replenishments to maneuver unit stockages. Consumption is translated into an order for materiel. Each order levies upon the CSS system a requirement for existing stocks and transportation assets. The authorized amount declines with time due to the attrition of weapon systems. Each weapon system has an authorized amount of specific supply types, and the authorized stockage is reduced as systems are killed. Table L-1 & Table L-1a identify the area of operation (AO) stockage levels and activities for class III: 1) amounts used; 2) amounts lost; and 3) amounts consumed (the requirement) for the SDID-O and the CORPS respectively.

TP	USED GALS	LOST GALS	REQUIREMENT CONSUMED
0	0	0	0
1	6,168	0	6,168
2	5,095	0	5,095
3	5,401	0	5,401
4	6,193	0	6,193
5	11,580	0	11,580
6	13,541	0	13,541
7	10,683	0	10,683
8	18,786	0	18,786
9	25,915	3	25,917
10	39,642	134	39,776
11	42,258	2,717	44,976
12	18,162	82	18,243
13	22,470	39	22,508
14	16,065	199	16,265
15	10,393	0	10,393
TOTAL	252,352	3,174	255,525

Consumption of Class III (SDID-O), GALS
Table L-1

TP	USED GALS	LOST GALS	REQUIREMENT CONSUMED
0	0	0	0
1	69,334	1,128	70,462
2	60,861	609	61,470
3	50,530	402	50,932
4	44,458	138	44,596
5	30,076	28	30,104
6	39,731	0	39,731
7	41,980	180	42,161
8	21,563	453	22,017
9	62,101	190	62,291
10	25,025	188	25,213
11	45,652	522	46,174
12	39,281	121	39,402
13	42,109	400	42,510
14	11,902	0	11,902
15	11,856	15	11,871
TOTAL	596,459	4,375	600,834

Consumption of Class III (CORPS), GALS
Table L-1a

(b) Discussion. The resupply options for maneuver units are: 1) resupply is
unnecessary (Balance on Hand >=75% of Authorized); 2) standard resupply (Balance on Hand
>=50% & <75% of Authorized); or 3) emergency resupply (Balance on Hand <50% of
Authorized); reference Appendix B for definitions of "standard" and "emergency"
resupply. Table L-2 & Table L-2a indicate during which TP any maneuver unit had a BOH
so low as to warrant the use of either standard or emergency resupply.

RESUPPLY	TP															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RESUPPLY UNNEC	45	45	45	45	45	45	45	45	44	43	39	41	38	37	40	38
STANDARD RESUPPLY	0	0	0	0	0	0	0	0	1	2	6	3	6	7	3	5
EMERGENCY RESUPPLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
ALL UNITS[1]	45	45	45	45	45	45	45	45	45	45	45	44	44	44	44	44

[1] COMBAT INEFFECTIVE (DEAD) UNITS ARE NOT INCLUDED.

Number of Maneuver Units Needing Resupply (SDID-O), Class III
Table L-2

RESUPPLY	TP															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RESUPPLY UNNEC	45	45	44	44	42	41	41	41	40	40	37	38	40	40	40	40
STANDARD RESUPPLY	0	0	1	1	2	4	3	2	3	2	6	4	4	4	2	2
EMERGENCY RESUPPLY	0	0	0	0	1	0	1	2	2	3	2	3	1	1	3	3
ALL UNITS[1]	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45

[1] COMBAT INEFFECTIVE (DEAD) UNITS ARE NOT INCLUDED.

Number of Maneuver Units Needing Resupply (CORPS), Class III
Table L-2a

For more detail on individual units requiring resupply see table L-3 & table
L-3a below. For the SDID-O (Table L-3) these units wait an average of 2.18 TPs (median
of 2 TPs) before their BOH returns to a level no longer requiring resupply of class III.

For the CORPS (Table L-3a) these units wait an average of 7.75 TPs (median of 8.5 TPs) before their BOH returns to a level no longer requiring resupply of class III.

Unit																	
								TP									
Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	#TPs
B3000LH														74	72	60	3
B3001DC											63						1
B3001H2										68	59			71	70		4
B3002DC											63	71	68				3
B3003H2										75	67			71			3
B3003DC											63						1
B300AEN													73	69			2
B300BEN																74	1
B300CEN																74	1
B300DEN																74	1
B3010RE											74	74					2
B3014AR													73	72			2
B3020RE												74	72				2
B3023AR													72	54	71	69	4
B3024AR													71	60			2
B30A00H									70						25	43	3
TOTAL	0	0	0	0	0	0	0	0	1	2	6	3	6	7	4	6	

Percentage of Balance On-Hand (%) for Maneuver Units
Requiring Resupply (SDID-O), Class III
Table L-3

For example for the SDID-O (Table L-3), at the end of TP 10, B3001DC had a class III BOH of 63%. This was the only TP in which B3001DC could have asked for resupply. During TP 10, B3001DC was one of 6 units capable of requesting resupply.

Unit																	
								TP									
Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	#TPs
B000000					67	62	56	48	42	37	31	22	67	58	49	39	12
B000CFC					70	68	66	64	62	60	58	56	54	53	51	50	12
B00A00H			72	58	47	54	44	46	44	27	35	26	31	18	18	14	14
B00B00H											75	73					2
B00C3H2											74	73	70				3
B00E00H						66	54		71	61	58	74	62	58	48	61	10
B00F00H											65	35					2
B00G00H								74	52	42	67			74	62	51	7
TOTAL	0	0	1	1	3	4	4	4	5	5	8	7	5	5	5	5	

Percentage of Balance On-Hand (%) for Maneuver Units
Requiring Resupply (CORPS), Class III
Table L-3a

For example for the CORPS (Table L-3a), at the end of TP 11, B00B00H had a class III BOH of 73%. This was only one of two TPs in which B00B00H could have asked for resupply. During TP 11, B00B00H was one of 7 units capable of requesting resupply.

(c) Problems. Table L-3 & Table L-3a shows BOH percentage for individual maneuver units requiring resupply. There were no problems filling maneuver unit orders for the SDID-O, however, a review of individual orders revealed a problem with the availability of transporters for the CORPS (reference Table L-4a).

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TP	REQUESTING UNIT	SUPPLY UNIT	SUPPLY TYPE	AMOUNT REQUESTED GALS	AMOUNT SHIPPED GALS	AMOUNT SHORTED (%)	TRUCKS AVAIL	AVAIL STOCKS GALS
2	B00A00H	B001CSA	POL-BACFT	88,771.47	42,284.79	52.4	0.0	1,157,715.3
3	B00A00H	B001CSA	POL-BACFT	80,375.33	53.62	99.9	0.0	1,157,661.6
3	B00A00H	B001CSA	POL-BACFT	90,249.95	0	100.0	0.0	1,157,661.6
4	B000CFC	B00RCSB	POL-BACFT	9,447.16	1,178.81	87.5	0.0	114,623.6
4	B000000	B02RCSB	POL-BACFT	9,347.87	1,178.81	87.4	0.0	115,803.1
4	B00A00H	B001CSA	POL-BACFT	92,869.89	0	100.0	0.0	1,157,626.6
4	B00A00H	B001CSA	POL-BACFT	1.01	0	100.0	0.0	1,157,626.6
4	B000CFC	B00RCSB	POL-BACFT	9,785.01	1,175.81	88.0	0.0	114,623.6
4	B000000	B02RCSB	POL-BACFT	9,686.18	0	100.0	0.0	115,803.1
4	B00A00H	B001CSA	POL-BACFT	1.01	0	100.0	0.0	1,157,626.6
4	B000CFC	B00RCSB	POL-BACFT	9,321.03	21.79	99.8	0.0	114,623.6
4	B000000	B02RCSB	POL-BACFT	10,405.48	18.07	99.8	0.0	115,803.1
5	B000CFC	B00RCSB	POL-BACFT	10,021.33	1,172.81	88.3	0.0	112,237.6
5	B00A00H	B001CSA	POL-BACFT	1.01	0	100.0	0.0	1,108,365.7
5	B000CFC	B00RCSB	POL-BACFT	9,552.85	21.71	99.8	0.0	112,237.6
5	B000000	B02RCSB	POL-BACFT	11,802.96	1,174.31	90.1	0.0	114,628.8
5	B000CFC	B00RCSB	POL-BACFT	10,261.23	1,169.82	88.6	0.0	112,237.6
5	B000000	B02RCSB	POL-BACFT	11,359.11	0	100.0	0.0	114,628.8
5	B00A00H	B001CSA	POL-BACFT	92,665.64	0	100.0	0.0	1,108,365.7
5	B000CFC	B00RCSB	POL-BACFT	9,807.62	21.62	99.8	0.0	112,237.6
5	B000000	B02RCSB	POL-BACFT	12,075.69	0	100.0	0.0	114,628.8
5	B00A00H	B001CSA	POL-BACFT	98,246.3	0	100.0	0.0	1,108,365.7
6	B000CFC	B00RCSB	POL-BACFT	10,506.79	1,166.84	88.9	0.0	109,840
6	B000000	B02RCSB	POL-BACFT	12,778.19	18	99.9	0.0	113,433.8
6	B00A00H	B001CSA	POL-BACFT	98,901.52	0	100.0	0.0	1,108,325.5
6	B000CFC	B00RCSB	POL-BACFT	10,064.08	32.75	99.7	0.0	109,840
6	B000000	B02RCSB	POL-BACFT	13,483.48	7.18	99.9	0.0	113,433.8
6	B000CFC	B00RCSB	POL-BACFT	10,763.87	1,165.35	89.2	0.0	109,840
6	B000000	B02RCSB	POL-BACFT	14,198.81	1,169.82	91.8	0.0	113,433.8
6	B000CFC	B00RCSB	POL-BACFT	10,343.36	32.66	99.7	0.0	109,840
6	B000000	B02RCSB	POL-BACFT	13,725.31	0	100.0	0.0	113,433.8
7	B000CFC	B00RCSB	POL-BACFT	11,052.55	1,163.86	89.5	0.0	107,444.8
7	B000000	B02RCSB	POL-BACFT	14,428.85	0	100.0	0.0	113,404.4
7	B00A00H	B001CSA	POL-BACFT	1.01	0	100.0	0.0	1,062,401.1
7	B000CFC	B00RCSB	POL-BACFT	10,627.58	32.58	99.7	0.0	107,444.8
7	B000CFC	B00RCSB	POL-BACFT	11,330.93	1,162.38	89.7	0.0	107,444.8
7	B000000	B02RCSB	POL-BACFT	15,755.91	17.95	99.9	0.0	113,404.4
7	B00A00H	B001CSA	POL-BACFT	1.01	0	100.0	0.0	1,062,401.1
7	B000CFC	B00RCSB	POL-BACFT	10,901.54	36.41	99.7	0.0	107,444.8
7	B000000	B02RCSB	POL-BACFT	16,460.99	11.47	99.9	0.0	113,404.4
8	B000CFC	B00RCSB	POL-BACFT	11,595.2	1,160.9	90.0	0.0	105,051.9
8	B000000	B02RCSB	POL-BACFT	17,171.18	1,166.84	93.2	0.0	112,237.5
8	B000CFC	B00RCSB	POL-BACFT	11,161.44	36.31	99.7	0.0	105,051.9
8	B000000	B02RCSB	POL-BACFT	16,697.14	0	100.0	0.0	112,237.5
8	B000CFC	B00RCSB	POL-BACFT	11,849.36	1,159.42	90.2	0.0	105,051.9
8	B000000	B02RCSB	POL-BACFT	17,408.48	0	100.0	0.0	112,237.5
8	B000CFC	B00RCSB	POL-BACFT	11,407.23	36.22	99.7	0.0	105,051.9

TP	REQUESTING UNIT	SUPPLY UNIT	SUPPLY TYPE	AMOUNT REQUESTED GALS	AMOUNT SHIPPED GALS	AMOUNT SHORTED (%)	TRUCKS AVAIL	AVAIL STOCKS GALS
8	B000000	B02RCSB	POL-BACFT	18,108.67	0	100.0	0.0	112,237.5
9	B000CFC	B00RCSB	POL-BACFT	12,089.46	1,157.94	90.4	0.0	102,655.5
9	B000000	B02RCSB	POL-BACFT	18,748.99	17.91	99.9	0.0	111,040.7
9	B000CFC	B00RCSB	POL-BACFT	11,647.09	41.87	99.6	0.0	102,655.5
9	B000000	B02RCSB	POL-BACFT	19,307.88	15.11	99.9	0.0	111,040.7
9	B000CFC	B00RCSB	POL-BACFT	12,317.93	1,154.99	90.6	0.0	102,655.5
9	B000000	B02RCSB	POL-BACFT	19,858.01	1,163.86	94.1	0.0	111,040.7
9	B000CFC	B00RCSB	POL-BACFT	11,872.8	41.71	99.6	0.0	102,655.5
9	B000000	B02RCSB	POL-BACFT	19,377.48	0	100.0	0.0	111,040.7
10	B000CFC	B00RCSB	POL-BACFT	12,538.1	1,152.04	90.8	0.0	100,263.7
10	B000000	B02RCSB	POL-BACFT	20,032.42	0	100.0	0.0	109,841.7
10	B00B00H	B001CSA	POL-BACFT	38,607.04	17,212.62	55.4	0.0	971,728.1
10	B000CFC	B00RCSB	POL-BACFT	12,090.25	41.55	99.7	0.0	100,263.7
10	B000000	B02RCSB	POL-BACFT	20,707.96	17.84	99.9	0.0	109,841.7
10	B00A00H	B001CSA	POL-BACFT	1.01	0	100.0	0.0	971,728.1
10	B000CFC	B00RCSB	POL-BACFT	12,750.07	1,149.1	91.0	0.0	100,263.7
10	B000000	B02RCSB	POL-BACFT	21,392.39	15.05	99.9	0.0	109,841.7
10	B000CFC	B00RCSB	POL-BACFT	12,299.54	48.99	99.6	0.0	100,263.7
10	B000000	B02RCSB	POL-BACFT	22,054.24	1,166.13	94.7	0.0	109,841.7
10	B00A00H	B001CSA	POL-BACFT	2.01	1	50.2	0.0	971,728.1
11	B000CFC	B00RCSB	POL-BACFT	12,946.32	1,146.17	91.1	0.0	97,876.9
11	B000000	B02RCSB	POL-BACFT	21,543.58	0	93.1	0.0	93,777.2
11	B000CFC	B00RCSB	POL-BACFT	12,493.13	48.81	99.6	0.0	97,876.9
11	B000000	B02RCSB	POL-BACFT	22,192.34	0	100.0	0.0	93,777.2
11	B00A00H	B001CSA	POL-BACFT	30,686.05	26.74	99.9	0.0	78,554.91
11	B000CFC	B00RCSB	POL-BACFT	13,134.54	1,143.25	91.3	0.0	97,876.9
11	B000000	B02RCSB	POL-BACFT	6,836.93	17.77	99.7	0.0	93,777.2
11	B00A00H	B001CSA	POL-BACFT	13,944.61	34.92	99.7	0.0	785,514.9
11	B000CFC	B00RCSB	POL-BACFT	12,678.75	48.62	99.6	0.0	97,876.9
12	B000CFC	B00RCSB	POL-BACFT	13,314.84	1,140.34	91.4	0.0	95,478.5
12	B000CFC	B00RCSB	POL-BACFT	12,856.47	59.66	99.5	0.0	95,478.5
12	B000CFC	B00RCSB	POL-BACFT	13,476.05	1,138.88	91.5	0.0	95,478.5
12	B000CFC	B00RCSB	POL-BACFT	13,013.68	59.51	99.5	0.0	95,478.5
13	B000CFC	B00RCSB	POL-BACFT	13,627.99	1,137.43	91.7	0.0	93,082.7
13	B000CFC	B00RCSB	POL-BACFT	13,161.68	59.36	99.5	0.0	93,082.7
13	B000CFC	B00RCSB	POL-BACFT	13,770.76	1,135.98	91.8	0.0	93,082.7
13	B000CFC	B00RCSB	POL-BACFT	13,300.54	63.06	99.5	0.0	93,082.7
14	B000CFC	B00RCSB	POL-BACFT	13,900.58	1,134.53	91.8	0.0	90,689.4
14	B000CFC	B00RCSB	POL-BACFT	13,426.5	62.9	99.5	0.0	90,689.4
14	B000CFC	B00RCSB	POL-BACFT	14,021.4	1,133.08	91.9	0.0	90,689.4
14	B000CFC	B00RCSB	POL-BACFT	13,543.49	62.74	99.5	0.0	90,689.4
15	B000CFC	B00RCSB	POL-BACFT	14,133.3	1,131.64	92.0	0.0	88,292.7
15	B000CFC	B00RCSB	POL-BACFT	13,651.6	68.3	99.5	0.0	88,292.7
15	B000CFC	B00RCSB	POL-BACFT	14,230.64	1,128.75	92.1	0.0	88,292.7
15	B000CFC	B00RCSB	POL-BACFT	13,746.64	68.04	99.5	0.0	88,292.7
	TOTAL			205,187.82	90,644.06	55.82		

Problems Filling Maneuver Unit Orders (CORPS), Class III
Table L-4a

To quantify a measure of risk, the maximum consumption of class III by a unit for any TP is compared with the current BOH for each TP; if the value is less than one, the unit would exhaust its supplies prior to repeating the activities of this "maximum" TP. Where "at risk" is less than one TP of supply, class III was generally provided to maneuver units without placing them "at risk". Only one maneuver unit was "at risk" for the SDID-O (reference table L-5) and three maneuver units were "at risk" for the CORPS (reference table L-5a).

MANEUVER UNIT	TP																# of TPs
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
B30A00H	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16

"At Risk" Units (SDID-O), Class III Risk
Table L-5

MANEUVER UNIT	TP																# of TPs
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
B00E00H											1			1	1		3
B00F00H												1					1
B00G00H	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16

"At Risk" Units (CORPS), Class III Risk
Table L-5a

(d) Observations.

> 1) Class III CSS support was adequate and all maneuver units were supported in a "timely fashion" for the SDID-O.
>
> 2) Due to the lack of transporters, there was a problem filling aircraft fuel requests for the CORPS.

(2) Supply Class V.

(a) Requirement. For the scenario, the requirement for class V (ammunition) was found by summing the consumption (quantities "used" plus quantities "lost") of all maneuver units (CSS units were excluded from this computation) during each of the 4-hour TPs. Calculated in "short tons (stons)," the requirement for class V for the length of the scenario is presented in table L-6 (SDID-O) & table L-6a (CORPS).

TP	USED STONS	LOST STONS	REQUIREMENT CONSUMED
0	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	43	0	43
9	13	0	13
10	57	3	60
11	526	43	569
12	182	1	183
13	575	0	575
14	315	2	317
15	9	0	9
TOTAL	1,719	49	1,768

Consumption of Class V (SDID-O), STONS
Table L-6

TP	USED STONS	LOST STONS	REQUIREMENT CONSUMED
0	0	0	0
1	1,987	16	2,003
2	1,623	11	1,634
3	960	10	970
4	578	3	580
5	467	0	468
6	581	0	581
7	542	3	546
8	801	15	816
9	997	5	1,002
10	432	6	438
11	469	5	475
12	343	4	347
13	215	8	222
14	26	0	26
15	25	0	25
TOTAL	10,046	87	10,133

Consumption of Class V (CORPS), STONS
Table L-6a

(b) Discussion.

1) This analysis focuses on twelve munition types {155MM, MLRS, Hellfire, Longbow, 2.75RKT, Stinger, 60MM, 120MM, 25MM, Javelin, LAW, and TOWII} using five indices {Amount Authorized, Amount On-Hand, Amount Used, Amount Lost, and Ratio of Amount On-Hand to Amount Authorized}for the SDID-O (reference table 7). Also this analysis focuses on ten munition types {155MM, ATACMS, MLRS, Hellfire, Longbow, 2.75RKT, Patriot, Stinger, 40MM, and LAW} using five indices {Amount Authorized, Amount On-Hand, Amount Used, Amount Lost, and Ratio of Amount On-Hand to Amount Authorized}for the CORPS

(reference table 7a). A list of all corps and division assets listing VIC unit name designators and their actual unit names is contained in Appendix A. A list of all supply analysis definitions is contained in Appendix B.

a) The aforementioned munition types were grouped into six functional categories (Field Artillery, Aviation, Air Defense Artillery, Armor & Mechanized Infantry, Anti-Armor, and Anti-Tank). Each of the functional categories was divided into subcategories displayed in table L-7 and table L-7a:

Category	Member Munition Type
Field Artillery	155MM - {M107(CB),M116B1,M121A1,M449A1,M483A1, M549A1,M692+M731,M795,M825,M864, M864/AR,M864/GM,XM898,XM898/AR, XM898/GM,XM982,XM982/GM} MLRS - {ER-MLRS,ER-MLRS/GUIDED,M26,MSTAR}
Aviation	HELLFIRE,LONGBOW,2.75RKT
Air Defense Artillery (ADA)	STINGER
Armor & Mechanized Infantry	60MM - {M302A1,M720} 120MM - {120MM,PGMM,M929,M933}
Anti-Armor	25MM - {25MM,40MM,45MM}
Anti-Tank	JAVELIN,LAW,TOWII

Key Functional Categories (SDID-O)
Table L-7

Category	Member Munition Type
Field Artillery	155MM - {M107(CB),M116B1,M121A1,M449A1,M483A1, M549A1,M692+M731,M795,M825,M864, M864/AR,M864/GM,XM898,XM898/AR, XM898/GM,XM982,XM982/GM} ATACMS - {ATACMS-I,ATACMS-IA,ATACMS-II,ATACMS-IIA} MLRS - {ER-MLRS,ER-MLRS/GUIDED,M26,MSTAR}
Aviation	HELLFIRE,LONGBOW,2.75RKT
Air Defense Artillery (ADA)	PATRIOT,STINGER
Anti-Armor	40MM
Anti-Tank	LAW

Key Functional Categories (CORPS)
Table L-7a

b) Table L-8 and Table L-8a display the key munition types with the five aforementioned indices for each key munition at the end of the scenario. **The scenario end states shown are reliable indicators of individual unit supply status over the course of the scenario:**

c) Table L-8 represents an aggregation by munition type for all units in the SDID-O. Table L-8a represents an aggregation by munition type for all units in the CORPS. However, supply performance at some individual units for specific munitions varied significantly from these general indicators.

- The first column, key munition type, lists each of the munition types included for analysis in this report.

- The second column, amount authorized indicates quantities at initial state (TP 0) of the scenario.

- The total amount used of a key munition type (column three) can exceed the endstate BOH because during a particular TP a unit can receive a key munition type.

- Munitions lost due to combat activity (column four) did not cause any significant inventory imbalances resulting in availability shortfalls.

- The fifth and sixth columns, amount authorized and balance on hand (BOH) respectively, indicate quantities at endstate (TP 15) of the scenario.

- The seventh column, percentage of balance on hand of amount authorized, indicates that at endstate (TP 15) of the scenario, the quantity of munitions available for mission support was large and more than sufficient to meet requirements. **The Balance on Hand was at least one hundred percent of authorized for each munition type except 155MM and MLRS for the SDID-O; ATACMS and LONGBOW for the CORPS.**

Key Munition Type	Initial State Amt Authorized (Rounds) @ TP0	Consumption Total Amount Used (Rounds)	Total Amount Lost (Rounds)	Endstate Amt Authorized (Rounds) @ TP15	BOH @ TP15 (Rounds)	Percentage BOH of Authorized
155MM	22,512	11,283	61	20,969	14,102	67%
MLRS	1,620	1,969	4	1,499	1,029	69%
HELLFIRE	2,544	0	0	1,662	2,544	153%
LONGBOW	2,544	389	62	1,662	1,877	113%
2.75RKT	12,768	719	29	8,526	14,173	166%
STINGER	816	0	21	653	1,239	190%
60MM	660	0	8	597	1,312	220%
120MM	12,680	3,868	65	8,819	20,969	238%
25MM	321,780	3,097	22,943	225,782	492,745	218%
JAVELIN	1,218	175	33	989	1,002	101%
LAW	1,005	41	0	978	1,969	201%
TOWII	2,248	39	51	1,496	4,357	291%

Key Munition Status (SDID-O)
Table L-8

Key Munition Type	Initial State Amt Authorized (Rounds) @ TP0	Consumption Total Amount Used (Rounds)	Total Amount Lost (Rounds)	Endstate Amt Authorized (Rounds) @ TP15	BOH @ TP15 (Rounds)	Percentage BOH of Authorized
155MM	34,488	40,530	837	25,805	34,349	133%
ATACMS	432	35	0	415	397	96%
MLRS	9,720	14,053	51	7,900	8,089	102%
HELLFIRE	3,294	0	0	2,251	3,294	146%
LONGBOW	3,294	189	18	2,889	2,658	92%
2.75RKT	16,416	999	11	13,760	19,907	145%
PATRIOT	128	0	0	116	128	110%
STINGER	942	0	6	860	1,586	184%
40MM	6,960	0	0	6,865	13,920	203%
LAW	350	0	3	334	697	209%

Key Munition Status (CORPS)
Table L-8a

d) Table L-9 & Table L-9a provide an overall summary of the additional supply indicators which helps assess the sufficiency of munition availability. Although the indicators are shown by munition type, the individual indicators represent the presence (Yes) or absence (No) of that indicator for some specific unit(s) in the force at the end of a specific TP. Tables L-10 thru L-24 and Tables L-10a thru L-19a provide more detailed analyses of the aforementioned munition availability criteria for the SDID-O and CORPS, respectively.

Key Munition Type	BOH (>=75%)	Standard Replenishment BOH (50%-74%)	Emergency Replenishment BOH (1%-49%)	BOH (=0)
155MM	Yes	Yes	Yes	Yes
MLRS	Yes	Yes	Yes	Yes
HELLFIRE	Yes	No	No	No
LONGBOW	Yes	No	Yes	No
2.75RKT	Yes	Yes	No	No
STINGER	Yes	Yes	Yes	No
60MM	Yes	No	No	No
120MM	Yes	Yes	Yes	Yes
25MM	Yes	No	No	No
JAVELIN	Yes	No	Yes	Yes
LAW	Yes	No	No	No
TOWII	Yes	No	No	No

Balance on Hand Status (SDID-O)
Table L-9

Key Munition Type	BOH (>=75%)	Standard Replenishment BOH (50%-74%)	Emergency Replenishment BOH (1%-49%)	BOH (=0)
155MM	Yes	Yes	Yes	Yes
ATACMS	Yes	No	No	No
MLRS	Yes	Yes	Yes	Yes
HELLFIRE	Yes	No	No	No
LONGBOW	Yes	Yes	Yes	No
2.75RKT	Yes	Yes	No	No
PATRIOT	Yes	No	No	No
STINGER	Yes	Yes	No	No
40MM	Yes	No	No	No
LAW	Yes	No	No	No

Balance on Hand Status (CORPS)
Table L-9a

    - Balance on Hand (>=75%) of Authorized: Initially all units start in this range since the amount authorized is equal to the balance on hand. BOHs which remain in this range maintain a sufficient quantity of authorized munitions and at no time throughout the scenario require supply replenishment.

    - Balance on Hand (50%-74%) of Authorized: This column indicates whether or not the BOH by munition type at any unit fell to the indicated percentage range of the authorized amount. BOH in this range triggers "standard supply replenishment" requests.

    -- For seven of the munition types in the SDID-O (HELLFIRE, LONGBOW, 60MM, 25MM, JAVELIN, LAW, and TOWII) no standard supply replenishment was required at any time during the scenario. No HELLFIRE, STINGER, or 60MM munition type was expended during this scenario. Also, no HELLFIRE or LAW munition type was lost due to attrition of systems.

    -- The other five munition types in the SDID-O (155MM, MLRS, 2.75RKT, STINGER, and 120MM) triggered standard resupply orders at some specific unit for the SDID-O. Tables L-10 through L-14 identify the unit, the time period, and the sub-munition(s) which triggered a standard resupply order.

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
1ST BN 3D FA (155 SP)	72%	TP 0	M107(CB)
	68%	TP 11	M107(CB)
	55%	TP 11	M483A1
	67%	TP 12	M107(CB)
	54%	TP 12	M449A1
	58%	TP 13	M107(CB)
	56%	TP 13	M795
	59%	TP 14	M107(CB)
	59%	TP 15	M107(CB)
2ND BN 3D FA (155 SP)	72%	TP 0	M107(CB)
	66%	TP 12	M107(CB)
	67%	TP 12	XM982
	67%	TP 13	M107(CB)
	68%	TP 13	XM892
	55%	TP 14	M449A1
	69%	TP 14	XM982
	56%	TP 15	M449A1
	70%	TP 15	XM982

155MM Standard Replenishment (SDID-O)
Table L-10

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
A BTRY 3D FA (MLRS)	56%	TP 13	M26
	57%	TP 14 & 15	M26
B BTRY 3D FA (MLRS)	51%	TP 13	ER-MLRS
	52%	TP 14	ER-MLRS
C BTRY 3D FA (MLRS)	52%	TP 14 & 15	M26

MLRS Standard Replenishment (SDID-O)
Table-11

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
1ST ATK BN 3D AVN	50%	TP 8	2.75RKT

2.75RKT Standard Replenishment (SDID-O)
Table L-12

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
1ST ATK BN 3D AVN	66%	TP 10	STINGER

STINGER Standard Replenishment (SDID-O)
Table-13

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
A TRP 3D CAV SQDN	60%	TP 12	M933
	51%	TP 15	120MM
TF 1-77 MECH	53%	TP 13	M933
	55%	TP 14	M933
	57%	TP 15	M933
1ST BN, STRIKE BDE 3D ID	63%	TP 11	M933

120MM Standard Replenishment (SDID-O)
Table-14

-- For five of the munition types in the CORPS (ATACMS, HELLFIRE, PATRIOT, 40MM, and LAW) no standard supply replenishment was required at any time during the scenario. No HELLFIRE, PATRIOT, STINGER, 40MM, or LAW munition type was expended during this scenario. Also, no ATACMS, HELLFIRE, PATRIOT or 40MM munition type was lost due to attrition of systems.

-- The other five munition types in the CORPS (155MM, MLRS, LONGBOW, 2.75RKT, and STINGER) triggered standard resupply orders at some specific unit. Tables L-10a through L-14a identify the unit, the time period, and the sub-munition(s) which triggered a standard resupply order.

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
3RD BN 63TH FA BDE (155 SP)	72%	TP 0	M107(CB)
	73%	TP 1	M107(CB)
	62%	TP 2	M795
	55%	TP 3,4,5	M449A1
	67%	TP 4	M483A1
	56%	TP 6 & 7	M449A1
	51%	TP 7	M107(CB)
	57%	TP 7	M483A1
	51%	TP 7	XM898
	63%	TP 9	M449A1
	62%	TP 10	M449A1
	65%	TP 11	M449A1
4TH BN 63TH FA BDE (155 SP)	72%	TP 0	M107(CB)
	73%	TP 1	M107(CB)
	63%	TP 1	M549A1
	70%	TP 2 & 4	M483A1
	51%	TP 3	M107(CB)
	58%	TP 3 & 4	M449A1
	63%	TP 3	XM982
	64%	TP 4	XM982
	59%	TP 5	M449A1
	71%	TP 5	M483A1
	66%	TP 5 & 6	M549A1
	66%	TP 5	XM982
	72%	TP 6	M483A1
	54%	TP 7	M107(CB)
	60%	TP 7	M449A1
	67%	TP 7	M549A1
	68%	TP 8	M549A1
	69%	TP 9 & 10	M549A1
	74%	TP 11 & 12	M549A1
3RD BN 65TH FA BDE (MLRS)	72%	TP 0	M107(CB)
	52%	TP 2	M107(CB)
	60%	TP 3	M483A1
	69%	TP 4	XM898
	65%	TP 5	XM898
	67%	TP 6	XM898
	52%	TP 7	M107(CB)
	75%	TP 7	M449A1
	58%	TP 7	M483A1
	70%	TP 7	M795
	66%	TP 10	M483A1
	55%	TP 10	M864
	56%	TP 11	M864
	67%	TP 12	M864
	62%	TP 12	XM898
A BTRY 1ST BN 67TH FA BDE (155 T)	51%	TP 1 & 2	M795
B BTRY 1ST BN 67TH FA BDE (155 T)	50%	TP 2	M795
C BTRY 1ST BN 67TH FA BDE (155 T)	51%	TP 2	M795
B BTRY 2ND BN 67TH FA BDE (155 T)	54%	TP 3 & 6	M795
	57%	TP 4	M795
	56%	TP 5	M795
C BTRY 2ND BN 67TH FA BDE (155 T)	55%	TP 9	M864
A BTRY 3RD BN 67TH FA BDE (155 T)	51%	TP 2	M795
B BTRY 3RD BN 67TH FA BDE (155 T)	50%	TP 2	M795
C BTRY 3RD BN 67TH FA BDE (155 T)	50%	TP 2	M795

155MM Standard Replenishment (CORPS)
Table L-10a

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
1ST BN 63TH FA BDE (MLRS)	70%	TP 2	ER-MLRS
	71%	TP 3	M26
	72%	TP 4	M26
	73%	TP 5	M26
	67%	TP 6	ER-MLRS
	74%	TP 6 & 7	M26
	68%	TP 7	ER-MLRS
2ND BN 63TH FA BDE (MLRS)	65%	TP 2	ER-MLRS
	71%	TP 3	M26
	72%	TP 4	M26
	73%	TP 5	M26
	74%	TP 6	ER-MLRS
	62%	TP 6	M26
1ST BN 65TH FA BDE (MLRS)	50%	TP 1	M26
	71%	TP 1	MSTAR
	71%	TP 7	ER-MLRS
	70%	TP 8	M26
2ND BN 65TH FA BDE (MLRS)	60%	TP 1	M26
	57%	TP 4	ER-MLRS
	54%	TP 7	ER-MLRS
2ND BN 69TH FA BDE (MLRS)	71%	TP 1	M26
	55%	TP 1	MSTAR
	57%	TP 2	MSTAR
	63%	TP 3	MSTAR
	66%	TP 4	MSTAR
	52%	TP 6	M26
	55%	TP 8	M26
	51%	TP 12 & 13	M26
	52%	TP 14	M26
3RD BN 69TH FA BDE (MLRS)	69%	TP 1	MSTAR
	70%	TP 2	MSTAR
	72%	TP 3	M26
	64%	TP 3	MSTAR
	73%	TP 4	M26

MLRS Standard Replenishment (CORPS)
Table-11a

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
1ST BN 102ND ATK HEL RGT	63%	TP 2	LONGBOW
2ND BN 102ND ATK HEL RGT	51%	TP 8	LONGBOW
	62%	TP 10	LONGBOW
	53%	TP 13	LONGBOW
	54%	TP 14	LONGBOW
	55%	TP 15	LONGBOW

LONGBOW Standard Replenishment (CORPS)
Table L-12a

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
2ND BN 102ND ATK HEL RGT	70%	TP 8	2.75RKT
	64%	TP 10	2.75RKT

2.75RKT Standard Replenishment (CORPS)
Table-13a

Unit Name	BOH(50%-74%)	Time Period(TP)	Sub-munition
2ND BN 102ND ATK HEL RGT	52%	TP 8	STINGER
	69%	TP 10	STINGER
	54%	TP 11	STINGER
	56%	TP 12	STINGER

STINGER Standard Replenishment (CORPS)
Table-14a

- Balance on Hand (1%-49%) of Authorized: This column indicates whether or not the BOH by munition type at any unit fell to the indicated percentage range of the

authorized amount. BOH in this range triggers "emergency supply replenishment" requests. Six of the munition types (155MM, MLRS, LONGBOW, STINGER, 120MM and JAVELIN) required emergency resupply for the SDID-O. Tables L-15 through L-20 depict specific unit, time period, and sub-munition type which generate an emergency resupply request.

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
1ST BN 3D FA (155 SP)	3%	TP 11	M449A1
	33%	TP 11	M795
	28%	TP 12	M483A1
	32%	TP 12	M795
	3%	TP 13,14,15	M864
	44%	TP 14	M449A1
	41%	TP 14	M483A1
	40%	TP 14	XM982
	45%	TP 15	M449A1
	42%	TP 15	M483A1
	41%	TP 15	XM982
2ND BN 3RD FA (155 SP)	39%	TP 1	M107(CB)
	46%	TP 2,3,4,5	M483A1
	32%	TP 2 & 3	M795
	40%	TP 4 & 5	M107(CB)
	47%	TP 6	M483A1
	33%	TP 7 & 8	M795

155MM Emergency Replenishment (SDID-O)
Table L-15

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
A BTRY 3D FA (MLRS)	33%	TP 11	M26
	18%	TP 12	M26
C BTRY 3D FA (MLRS)	8%	TP 13	M26

MLRS Emergency Replenishment (SDID-O)
Table L-16

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
1ST ATK BN 3D AVN	41%	TP 8	LONGBOW
	50%	TP 10	LONGBOW

LONGBOW Emergency Replenishment (SDID-O)
Table L-17

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
1ST ATK BN 3D AVN	39%	TP 8	STINGER

STINGER Emergency Replenishment (SDID-O)
Table L-18

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
A TRP 3D CAV SQDN	27%	TP 11	M933
B TRP 3D CAV SQDN	27%	TP 11	M933
	28%	TP 12	M933
TF 1-77 MECH	27%	TP 11	M933
	28%	TP 12	M933
TF 1-80 MECH	25%	TP 11 & 12	M933
	45%	TP 13	M933
	46%	TP 14	M933
	44%	TP 15	M933
TF 1-5 AR	26%	TP 14	M933
	27%	TP 15	M933
1ST BN, STRIKE BDE 3D ID	39%	TP 12	M933
	38%	TP 13	M933

120MM Emergency Replenishment (SDID-O)
Table L-19

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
TF 1-78 MECH	30%	TP 15	JAVELIN

JAVELIN Emergency Replenishment (SDID-O)
Table L-20

– Three of the munition types (155MM, MLRS, and LONGBOW) required emergency resupply for the CORPS. Tables L-15a through L-17a depict specific unit, time period, and sub-munition type which generate an emergency resupply request.

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
3RD BN 63TH FA BDE (155 SP)	36%	TP 1	M549A1
	46%	TP 2	M107(CB)
	4%	TP 2	M483A1
	49%	TP 3	M107(CB)
	47%	TP 3	M483A1
	36%	TP 3 & 4	M795
	47%	TP 3	M864
	47%	TP 3	XM898
	47%	TP 3	XM982
	48%	TP 4	XM898
	36%	TP 5	M483A1
	37%	TP 5	M795
	49%	TP 5	XM898
	25%	TP 6	M483A1
	38%	TP 6	M795
	50%	TP 6	XM898
	16%	TP 8	M449A1
4TH BN 63TH FA BDE (155 SP)	46%	TP 2	M107(CB)
	20%	TP 2	M549A1
	42%	TP 2	M795
	10%	TP 3	M483A1
	22%	TP 3 & 4	M549A1
	35%	TP 3 & 4	M795
	2%	TP 3,4,5	M864
	36%	TP 5 & 6	M795
	21%	TP 6,7,8	M864
	28%	TP 9 & 10	M795
	22%	TP 9 & 10	M864
	23%	TP 11	M864
	29%	TP 13	M483A1
3RD BN 65TH FA BDE (MLRS)	49%	TP 1	M107(CB)
	20%	TP 1	M483A1
	20%	TP 1	M549A1
	32%	TP 1	M795
	25%	TP 1	XM898
	21%	TP 2 & 3	M549A1
	34%	TP 2	M795
	37%	TP 2	XM898
	17%	TP 3	M864
	27%	TP 3	XM898
	17%	TP 3	XM982
	48%	TP 7	XM898
	2%	TP 8	M549A1
	38%	TP 8	XM898
	15%	TP 9	M549A1
	2%	TP 9	XM898
	6%	TP 9	XM982
	14%	TP 10	M549A1
	30%	TP 10	XM898
	40%	TP 10	XM982
	23%	TP 11	M483A1
	46%	TP 11	XM898
	41%	TP 11	XM982
	39%	TP 12	XM982
	40%	TP 13 & 14	XM982
	41%	TP 15	XM982

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
A BTRY 1ST BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	37%	TP 1 & 2	M864/AR
	37%	TP 1 & 2	M864/GM
B BTRY 1ST BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	50%	TP 1	M795
	36%	TP 1	M864/AR
	36%	TP 1	M864/GM
	37%	TP 2	M864/AR
	37%	TP 2	M864/GM
C BTRY 1ST BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	48%	TP 1	M795
	35%	TP 1	M864/AR
	35%	TP 1	M864/GM
	37%	TP 2	M864/AR
	37%	TP 2	M864/GM
A BTRY 2ND 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	48%	TP 1	M795
	35%	TP 1	M864/AR
	35%	TP 1	M864/GM
	50%	TP 2	M795
	36%	TP 2	M864/AR
	36%	TP 2	M864/GM
	20%	TP 9	M795
B BTRY 2ND 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	48%	TP 1	M795
	35%	TP 1	M864/AR
	35%	TP 1	M864/GM
	50%	TP 2	M795
	36%	TP 2	M864/AR
	36%	TP 2	M864/GM
	18%	TP 9	M795
	26%	TP 13	M795
	27%	TP 14	M795
	29%	TP 15	M795

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
C BTRY 2ND BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	21%	TP 1	M116B1
	48%	TP 1	M795
	35%	TP 1	M864/AR
	35%	TP 1	M864/GM
	22%	TP 2	M116B1
	50%	TP 2	M795
	36%	TP 2	M864/AR
	36%	TP 2	M864/GM
	36%	TP 3	M116B1
	38%	TP 4	M116B1
	37%	TP 5	M116B1
	36%	TP 6	M116B1
	38%	TP 7	M116B1
	37%	TP 8	M116B1
	38%	TP 9	M116B1
	42%	TP 10	M116B1
	39%	TP 11	M116B1
	37%	TP 12	M116B1
	40%	TP 13	M116B1
	42%	TP 14	M116B1
	45%	TP 15	M116B1
A BTRY 3RD BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	21%	TP 1	M116B1
	48%	TP 1	M795
	35%	TP 1	M864/AR
	35%	TP 1	M864/GM
	22%	TP 2	M116B1
	37%	TP 2	M864/AR
	37%	TP 2	M864/GM
	36%	TP 3	M116B1
	35%	TP 4	M116B1
	38%	TP 5	M116B1
	36%	TP 6	M116B1
	35%	TP 7	M116B1
	37%	TP 8	M116B1
	36%	TP 9	M116B1
	36%	TP 10	M116B1
	38%	TP 11	M116B1
	37%	TP 12	M116B1
	35%	TP 13	M116B1
	37%	TP 14	M116B1
	36%	TP 15	M116B1

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
B BTRY 3RD BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	21%	TP 1	M116B1
	47%	TP 1	M795
	34%	TP 1	M864/AR
	34%	TP 1	M864/GM
	22%	TP 2	M116B1
	36%	TP 2	M864/AR
	36%	TP 2	M864/GM
	21%	TP 3	M116B1
	48%	TP 3	M795
	35%	TP 3	M864/AR
	35%	TP 3	M864/GM
	35%	TP 4	M116B1
	38%	TP 5	M116B1
	36%	TP 6	M116B1
	35%	TP 7	M116B1
	37%	TP 8	M116B1
	36%	TP 9	M116B1
	36%	TP 10	M116B1
	38%	TP 11	M116B1
	37%	TP 12	M116B1
	35%	TP 13	M116B1
	37%	TP 14	M116B1
	36%	TP 15	M116B1
C BTRY 3RD BN 67TH FA BDE (155 T)	20%	TP 0	M116B1
	46%	TP 0	M795
	33%	TP 0	M864/AR
	33%	TP 0	M864/GM
	21%	TP 1	M116B1
	47%	TP 1	M795
	34%	TP 1	M864/AR
	34%	TP 1	M864/GM
	22%	TP 2	M116B1
	36%	TP 2	M864/AR
	36%	TP 2	M864/GM
	21%	TP 3	M116B1
	48%	TP 3	M795
	35%	TP 3	M864/AR
	35%	TP 3	M864/GM
	35%	TP 4	M116B1
	38%	TP 5	M116B1
	36%	TP 6	M116B1
	35%	TP 7	M116B1
	37%	TP 8	M116B1
	36%	TP 9	M116B1
	36%	TP 10	M116B1
	38%	TP 11	M116B1
	37%	TP 12	M116B1
	35%	TP 13	M116B1
	37%	TP 14	M116B1
	36%	TP 15	M116B1

155MM Emergency Replenishment (CORPS)
Table L-15a

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
1ST BN 63TH FA BDE (MLRS)	33%	TP 3	ER-MLRS
	34%	TP 4 & 5	ER-MLRS
	3%	TP 11 & 12	ER-MLRS
2ND BN 63TH FA BDE (MLRS)	23%	TP 3	ER-MLRS
	24%	TP 4 & 5	ER-MLRS
	34%	TP 11 & 12	ER-MLRS
	35%	TP 13	ER-MLRS

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
1ST BN 65TH FA BDE (MLRS)	14%	TP 3	M26
	36%	TP 5	M26
	28%	TP 6	M26
	42%	TP 8	ER-MLRS
	15%	TP 11	ER-MLRS
	32%	TP 12	ER-MLRS
	33%	TP 12	M26
2ND BN 65TH FA BDE (MLRS)	37%	TP 1	ER-MLRS
	40%	TP 2	ER-MLRS
	8%	TP 2	M26
	28%	TP 3	ER-MLRS
	30%	TP 3	M26
	17%	TP 4 & 5	M26
	2%	TP 8	ER-MLRS
	26%	TP 8	M26
	48%	TP 11	ER-MLRS
	28%	TP 11	M26
2ND BN 69TH FA BDE (MLRS)	49%	TP 2	M26
	15%	TP 3	M26
	32%	TP 4	M26
	16%	TP 5	M26
	30%	TP 7	M26
	27%	TP 9	M26
3RD BN 69TH FA BDE (MLRS)	30%	TP 5	M26
	27%	TP 6	M26
	29%	TP 7	M26
	11%	TP 7	ER-MLRS

MLRS Emergency Replenishment (CORPS)
Table L-16a

Unit Name	BOH(1%-49%)	Time Period(TP)	Sub-munition
2ND BN 102ND ATK HEL RGT	44%	TP 11	LONGBOW
	46%	TP 12	LONGBOW

LONGBOW Emergency Replenishment (CORPS)
Table L-17a

– Zero Balance on Hand: This column indicates whether or not the BOH by munition type at any unit fell to zero. Four of the munition types (155MM, MLRS, 120MM, and JAVELIN) experience a zero balance on hand for the SDID-O. Tables L-21 through L-24 depict specific unit, time period, and sub-munition type which experience a zero balance on hand.

Unit Name	BOH(=0)	Time Period(TP)	Sub-munition
1ST BN 3D FA (155 SP)	0%	TP 13	M449A1
	0%	TP 13	M483A1
	0%	TP 13	XM982
2ND BN 3D FA (155 SP)	0%	TP 11	XM982

155MM Zero Balance (SDID-O)
Table L-21

Unit Name	BOH(=0)	Time Period(TP)	Sub-munition
A BTRY 3D FA (MLRS)	0%	TP 8 & 10	ER-MLRS
B BTRY 3D FA (MLRS)	0%	TP 12	ER-MLRS
	0%	TP 13,14,15	M26

MLRS Zero Balance (SDID-O)
Table L-22

Unit Name	BOH(=0%)	Time Period(TP)	Sub-munition
A TRP 3D CAV SQDN	0%	TP 13 & 14	120MM

120MM Zero Balance (SDID-O)
Table L-23

Unit Name	BOH(=0%)	Time Period(TP)	Sub-munition
A TRP 3D CAV SQDN	0%	TP 14 & 15	JAVELIN

JAVELIN Zero Balance (SDID-O)
Table L-24

     – Two of the munition types (155MM and MLRS) experience a zero balance on hand for the CORPS. Tables L-18a and L-19a depict specific unit, time period, and sub-munition type which experience a zero balance on hand.

Unit Name	BOH(=0)	Time Period(TP)	Sub-munition
3RD BN 63TH FA BDE (155 SP)	0% 0% 0%	TP 2 TP 10 & 12 TP 10-15	M449A1 M864 XM982
4TH BN 63TH FA BDE (155 SP)	0% 0% 0%	TP 2 TP 11 & 12 TP 12-14	M449A1 M483A1 M864
3RD BN 65TH FA BDE (155 SP)	0% 0% 0% 0%	TP 1 TP 1,2,8,9 TP 1,2,6,8 TP 2,6,8,9	M449A1 M864 XM982 M483A1
A BTRY 2ND BN 67TH FA BDE (155 T)	0% 0% 0% 0%	TP 1,2,3,10-15 TP 9-15 TP 9-12,14,15 TP 10,11,12	XM982 M864 M549A1 M795
B BTRY 2ND BN 67TH FA BDE (155 T)	0% 0% 0% 0%	TP 1,2,3,10-15 TP 9-15 TP 10,11,12 TP 10,11,12,15	XM982 M864 M795 M549A1
C BTRY 1ST BN 67TH FA BDE (155 T)	0% 0% 0% 0%	TP 1,2,3,10-15 TP 10,11,12,15 TP 10-15 TP 10,11,12	XM982 M864 M549A1 M795

155MM Zero Balance (CORPS)
Table L-18a

Unit Name	BOH(=0)	Time Period(TP)	Sub-munition
1ST BN 65TH FA BDE (MLRS)	0% 0%	TP 1,2,3,9,10 TP 2,4,9,10,11	ER-MLRS M26
2ND BN 65TH FA BDE (MLRS)	0% 0%	TP 9 & 10 TP 9 & 10	M26 ER-MLRS
2ND BN 69TH FA BDE (MLRS)	0%	TP 3-15	ER-MLRS
3RD BN 69TH FA BDE (MLRS)	0%	TP 3-6,8-15	ER-MLRS

MLRS Zero Balance (CORPS)
Table L-19a

(c) Problems. Of the 1,741 stons ordered, via standard resupply, 1,092 stons were shipped (approximately 62.7 percent) for the SDID-O. Problems in unfilled orders are associated with unavailable transporters or replenishments (reference table L-25).

TP	REQUESTING UNIT	SUPPLY UNIT	SUPPLY TYPE	AMOUNT REQUESTED (Rounds)	AMOUNT SHIPPED (Rounds)	AMOUNT SHORTED (%)	TRUCKS AVAIL	AVAIL STOCKS (Rounds)
1	B3001H2	B301ATP	M107(CB)	642.12	430	33.0	17.8	0
1	B3002H2	B302ATP	M107(CB)	642.12	485	24.5	17.8	0
8	B30A00H	B003ASP	LONGBOW	1,556.16	100	93.6	0	0
8	B30A00H	B003ASP	2.75RKT	6,327.77	2,764.77	56.3	0	18,655.2
11	B3012MX	B3012FC	M933	79.84	56	29.9	7.8	0
11	B3001H2	B301ATP	M107(CB)	779.61	425.96	45.4	12	0
11	B3001H2	B301ATP	M795	454.55	360	20.8	12	0
11	B3001H2	B301ATP	M483A1	904.21	880	2.7	12	0
11	B3011MX	B3011FC	M933	212.11	56	73.6	7.8	0
12	B3002H2	B302ATP	M107(CB)	793.94	479.69	39.6	16.4	0
13	B3001H2	B301ATP	M107(CB)	933.48	423.96	54.6	13.1	0
14	B3001H2	B301ATP	XM982	200.88	119.03	40.7	14.2	0
14	B3001H2	B301ATP	M483A1	1,814.34	221.11	87.8	14.2	0
14	B3024AR	B3024FC	M933	229.95	28	87.8	4.9	0
14	B3002H2	B302ATP	M107(CB)	913.63	477.43	47.7	10.2	0
14	B3002H2	B302ATP	M795	456.75	360	21.2	10.2	0
14	B3002H2	B302ATP	M449A1	76.81	76.49	0.4	10.2	0
14	B3002H2	B302ATP	M483A1	1,726.56	880	49.0	10.2	0
15	B3001H2	B301ATP	M107(CB)	451.79	424.62	6.0	10	0
15	B3001H2	B301ATP	M483A1	1,542.45	869	43.7	10	0
15	B3021MX	B3021FC	JAVELIN	73.3	6	91.8	7.9	0
TOTAL				31,371.2	9,923.06	68.4		

Problems Filling Maneuver Unit Orders (SDID-O), Class V
Table L-25

- Of the 11,830 stons ordered, via standard resupply, 6,153 stons were shipped (approximately 52.0 percent) for the CORPS. Problems in unfilled orders are associated with unavailable transporters or replenishments (reference table L-20a).

TP	REQUESTING UNIT	SUPPLY UNIT	SUPPLY TYPE	AMOUNT REQUESTED (Rounds)	AMOUNT SHIPPED (Rounds)	AMOUNT SHORTED (%)	TRUCKS AVAIL	AVAIL STOCKS (Rounds)
1	B00C3H2	B001ASP	M107(CB)	322.08	6.52	98.0	0	15,680.3
2	B00C3H2	B001ASP	M107(CB)	239.1	17.75	92.6	0	14,784
2	B00C3H2	B001ASP	M449A1	50.17	0	100.0	0	16,589.8
2	B00E00H	B001ASP	LONGBOW	1,099.93	100	90.9	0	0
2	B00E00H	B001ASP	B30MM	38,498.1	5,264.85	86.3	0	971,263.1
2	B00C3H2	B001ASP	XM898	78.82	0	100.0	0	2,363.9
2	B00A3H2	B001ASP	M483A1	1,063.75	771.86	27.4	0	149,158.4
2	B00A3H2	B001ASP	M449A1	57.53	0	100.0	0	16,589.8
3	B00C3H2	B001ASP	XM898	75.17	0	100.0	0	2,239.6
3	B00A3H2	B001ASP	M483A1	1,956.69	0	100.0	0	143,603.5
3	B00A3H2	B001ASP	M795	309.14	0	100.0	0	6,199.6
3	B00A3H2	B001ASP	M864	172.43	0	100.0	0	2,999.3
3	B00A4H2	B001ASP	M483A1	1,846.68	613.1	66.8	0	143,603.5
3	B00A4H2	B001ASP	XM982	197.88	0	100.0	0	599.2
3	B00C3H2	B001ASP	XM898	109.28	0	100.0	0	2,239.6
3	B00C3H2	B001ASP	M107(CB)	237.95	6.88	97.1	0	14,777.2
3	B00C3H2	B001ASP	XM898	126.31	0	100.0	0	2,239.6
3	B00A4H2	B001ASP	M483A1	458.3	0	100.0	0	143,603.5
4	B00A3H2	B001ASP	XM898	208.93	182.49	12.7	0	2,057.1
8	B00F00H	B001ASP	STINGER	153.7	16.39	89.3	0	3,582
8	B00C3H2	B001ASP	M483A1	1,541.06	107.86	93.0	0	139,513
9	B00C3H2	B001ASP	M483A1	1,525.52	173.54	88.6	0	139,087.1
9	B00C3H2	B001ASP	M864	152.03	0	100.0	0	1,983.2
10	B00F00H	B001ASP	STINGER	75.7	0.34	99.6	0	3,581.7
10	B00F00H	B001ASP	B20MM	6,700.07	0	100.0	0	90,763.5
10	B00F00H	B001ASP	STINGER	112.65	0	100.0	0	3,581.7
10	B00F00H	B001ASP	B20MM	8,952.5	0	100.0	0	90,763.5
10	B00F00H	B001ASP	STINGER	107.01	0	100.0	0	3,581.7
10	B00F00H	B001ASP	B20MM	8,549	0	100.0	0	90,763.5
	TOTAL			31,371.2	7,087.7	77.4		

Problems Filling Maneuver Unit Orders (CORPS), Class V
Table L-20a

- The problems of unfilled orders have rippled into maneuver units. In the
table below, supply type-maneuver unit combinations that have a zero BOH are presented.
The table has been coded: 0 - time and distance problems; 1 - unsupported materiel; 2 -
insufficient replenishment stockages; and 3 - unavailable transporters. Generally, once
a unit experienced a zero BOH, the zero BOH continued to the end of the scenario.

- From table 26 (SDID-O) and table L-21a (CORPS), zero BOH are attributed to
shortages of transporters, shortages of replenishments, and large time-distances between
maneuver units and their supporting CSS unit. The reader is cautioned regarding the
"0"; some maneuver units consume everything on-hand, and cannot be provided a supply
type fast enough regardless of the speed of the CSS system.

Supply Type	Maneuver Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	# of TPs
120MM	B3001DC														0	0		2
ER-MLRS	B300AM2									0		0						2
ER-MLRS	B300BM2													0				1
JAVELIN	B3001DC													0	0			2
M26	B300BM2														0	0	0	3
M449A1	B3001H2													0				1
M483A1	B3001H2													0				1
XM982	B3001H2													0				1
XM982	B3002H2												0					1

Causes for Zero BOH (SDID-O)
Table L-26

Supply Type	Maneuver Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	# of TPs
ER-MLRS	B00C1M2		0	0	0						0	0						5
ER-MLRS	B00C2M2										0	0						2
ER-MLRS	B00G2M2				0	0	0	0	0	0	0	0	0	0	0	0	0	13
ER-MLRS	B00G3M2				0	0	0	0		0	0	0	0	0	0	0	0	12
M26	B00C1M2		0		0						0	0	0					5
M26	B00C2M2										0	0						2
M449A1	B00A3H2			3														1
M449A1	B00A4H2			0														1
M449A1	B00C3H2		3															1
M483A1	B00A4H2												3	3				2
M483A1	B00C3H2			3				3		3	3							4
M549A1	B00E4T2										0	0	0	0		0	0	6
M549A1	B00E5T2										0	0	0				0	4
M549A1	B00E6T2										0	0	0		0	0	0	6
M795	B00E4T2										0	0	0					3
M795	B00E5T2										0	0	0					3
M795	B00E6T2										0	0	0					3
M864	B00A3H2										0		0					2
M864	B00A4H2												0	0	0	0		4
M864	B00C3H2		0	0						0	3							4
M864	B00E4T2										0	0	0	0	0	0	0	7
M864	B00E5T2										0	0	0	0	0	0	0	7
M864	B00E6T2										0	0	0				0	4
XM982	B00A3H2										0	0	0		0	0	0	6
XM982	B00C3H2		0	0				0		0								4
XM982	B00E4T2	0	0	0							0	0	0		0	0	0	9
XM982	B00E5T2	0	0	0							0	0	0		0	0	0	9
XM982	B00E6T2	0	0	0							0	0	0		0	0	0	9

Causes for Zero BOH (CORPS)
Table L-21a

To quantify a measure of risk, the maximum consumption of class V by a unit for any TP is compared with the current BOH for each TP; if the value is less than one, the unit would exhaust its supplies prior to repeating the activities of this "maximum"

TP. Where "at risk" is less than one TP of supply, class V was generally provided to maneuver units without placing them "at risk." Fourteen maneuver units were "at risk" for the SDID-O (reference Table L-27).   Nineteen maneuver units were "at risk" for the CORPS (reference Table L-22a).

	TP																
MANEUVER UNIT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	# of TPs
B3001DC												1	3	4	4	4	5
B3001H2												2	3	5	4	4	5
B3002DC												1	1	1	1	1	5
B3002H2												1	1	1	4	4	5
B300AEN								1	1	1	1	2	2	2	2	1	9
B300AM2									1	1	1	2	2	2	2	2	8
B300BM2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	16
B300CM2												1		1	1	1	4
B3011MX												1	1	1	1	1	5
B3012MX												1	1	1	1	1	5
B3021MX																1	1
B3024AR															1	1	2
B3031LT												1	1	1	1	1	5
B30A00H	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	16

"At Risk" Units (SDID-O), Class V Risk
Table L-27

	TP																
MANEUVER UNIT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	# of TPs
B00A1M2			1	1	1	1	1	1				1	1				8
B00A2M2				1	1	1						1	1	1			6
B00A3H2	2	3	4	5	4	4	4	4	3	3	4	4	4	4	4	4	16
B00A4H2	1	1	5	5	5	4	4	4	3	4	4	3	3	3	3	3	16
B00C1M2		2	2	2	1	1	1	1	2	2	2	2	2				12
B00C2M2		1	2	2	2	1		1	2	2	2	2					10
B00C3H2	3	7	6	5	3	3	4	6	7	7	6	6	5	3	3	3	16
B00E00H			1							1				1	1		4
B00E1T2		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
B00E2T2		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
B00E3T2		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
B00E4T2	1	2	2	1	1	1	1	1	1	4	4	4	4	4	4	4	16
B00E5T2	1	2	2	2	2	2	2	1	1	4	4	4	4	4	4	4	16
B00E6T2	1	2	2	1	2	2	2	2	2	3	4	4	4	4	3	3	16
B00E7T2		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
B00F00H									1			2	1				3
B00G00H	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	16
B00G2M2			1	2	2	2	1	2	2	2	1	1	2	2	2	1	14
B00G3M2		1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	15

"At Risk" Units (CORPS), Class V Risk
Table L-22a

(d) Observations.

1) **There were several occurrences of zero balance on hand for the 155MM munition type**, however, at no time were all 155MM sub-munition categories at zero balance.

2) **For the MLRS munition type**, the ER-MLRS sub-munition had a few occurrences of zero balance; however, at no time were all MLRS sub-munition categories at zero balance.

3) **Most problems** filling maneuver units orders for Class V was due to **nonavailability of transporters**; the **primary cause** for zero balance on hand for Class V was **time and distance problems**.

DDA VIC Name to Unit Name Cross Reference

VIC Name	Unit Name
B000CFC	CFC HQ
B00RCSB	CORPS REAR SPT BN
B02RCSB	CORPS REAR SPT BN
B000000	III CORPS
B000PAT	1ST PATRIOT BN HQ
B001PAT	A BTRY 1ST PATRIOT BN
B002PAT	B BTRY 1ST PATRIOT BN
B003PAT	C BTRY 1ST PATRIOT BN
B004PAT	D BTRY 1ST PATRIOT BN
B00FCSB	CORPS FWD SPT BN
B02FCSB	CORPS FWD SPT BN
B001CSA	III CORPS SUPPORT AREA
B001ASP	501ST FASP-1
B002ASP	501ST FASP-2
B003ASP	501ST FASP-3
B004ASP	503RD FASP-1
B005ASP	503RD FASP-2
B00A002	63TH FA BDE HQ III CORPS ARTY
B00A1M2	1ST BN 63TH FA BDE (MLRS)
B00A2M2	2ND BN 63TH FA BDE (MLRS)
B00A3H2	3RD BN 63TH FA BDE (155 SP)
B00A4H2	4th BN 63TH FA BDE (155 SP)
B00C002	65TH FA BDE HQ III CORPS ARTY
B00C1M2	1ST BN 65TH FA BDE (MLRS)
B00C2M2	2ND BN 65TH FA BDE (MLRS)
B00C3H2	3RD BN 65TH FA BDE (155 SP)
B00E002	67TH FA BDE HQ III CORPS ARTY
B00E1T2	A BTRY 1ST BN 67TH FA BDE (155 T)
B00E2T2	B BTRY 1ST BN 67TH FA BDE (155 T)
B00E3T2	C BTRY 1ST BN 67TH FA BDE (155 T)
B00E4T2	A BTRY 2ND BN 67TH FA BDE (155 T)
B00E5T2	B BTRY 2ND BN 67TH FA BDE (155 T)
B00E6T2	C BTRY 2ND BN 67TH FA BDE (155 T)
B00E7T2	A BTRY 3RD BN 67TH FA BDE (155 T)
B00E8T2	B BTRY 3RD BN 67TH FA BDE (155 T)
B00E9T2	C BTRY 3RD BN 67TH FA BDE (155 T)
B00G002	69TH FA BDE HQ III CORPS ARTY
B00G1M2	1ST BN 69TH FA BDE (MLRS)
B00G2M2	2ND BN 69TH FA BDE (MLRS)
B00G3M2	3RD BN 69TH FA BDE (MLRS)
B00AVNB	10TH AVN BDE III CORPS
B000GRP	103RD AVN GROUP 10TH AVN BDE
B00A00H	1ST BN 103RD AVN GRP
B00B00H	2ND BN 103RD AVN GRP
B000RGT	102ND ATK HEL RGT 10TH AVN BDE
B00E00H	1ST BN 102ND ATK HEL RGT
B00F00H	2ND BN 102ND ATK HEL RGT

VIC Name	Unit Name
B00G00H	3RD BN 102ND ATK HEL RGT
B3000MX	3D INFANTRY DIVISION (MECH)
B300DSB	3D DIVISION SUPPORT AREA
B3000DC	3D CAV SQDN 3D ID
B3001DC	A TRP 3D CAV SQDN
B3002DC	B TRP 3D CAV SQDN
B3003DC	C TRP 3D CAV SQDN
B300AEN	A CO, 3RD ENG REGT
B3000AD	1ST CAV DIV AD BN
B300AAD	A CO, 3ID AD BN
B300BAD	B CO, 3ID AD BN
B3010MX	1ST BDE 3D ID
B3010RE	1ST BDE RECON TRP
B3011MX	TF 1-77 MECH
B3011FC	FWD SPT CO
B3012MX	TF 1-80 MECH
B3012FC	FWD SPT CO
B3013AR	TF 1-2 AR
B3013FC	FWD SPT CO
B3014AR	TF 1-3 AR
B3014FC	FWD SPT CO
B300BEN	B CO, 3RD ENG REGT
B300CEN	C CO, 3RD ENG REGT
B300DEN	D CO, 3RD ENG REGT
B3004EN	551ST EN BN (CORPS)
B301FSB	FSB 1ST BDE 3D ID
B301ATP	1ST BDE 3ID AMMO TRANS PT
B3020AR	2ND BDE 3D ID
B3020RE	2ND BDE RECON TRP
B3021MX	TF 1-78 MECH
B3021FC	FWD SPT CO
B3022MX	TF 1-79 MECH
B3022FC	FWD SPT CO
B3023AR	TF 1-4 AR
B3023FC	FWD SPT CO
B3024AR	TF 1-5 AR
B3024FC	FWD SPT CO
B300EEN	E CO, 3RD ENG REGT
B300FEN	F CO, 3RD ENG REGT
B300GEN	G CO, 3RD ENG REGT
B302FSB	FSB 2ND BDE 3D ID
B302ATP	2ND BDE 3ID AMMO TRANS PT
B3031LT	1st Bn, STRIKE BDE 3D ID
B300002	3D DIVISION ARTY
B3001H2	1ST BN 3D FA (155 SP)
B3002H2	2ND BN 3D FA (155 SP)
B3000M2	3D FA (MLRS)
B300AM2	A BTRY 3D FA (MLRS)
B300BM2	B BTRY 3D FA (MLRS)

VIC Name	Unit Name
B300CM2	C BTRY 3D FA (MLRS)
B30100H	3D AVN BDE HQ
B3000LH	3D CAV SQDN FARP
B30A00H	1ST ATK BN 3D AVN
B30C00H	3RD LIFT BN 3D AVN
B300HEN	H CO, 3RD ENG REGT
B3000EN	3D DIVISION ENG REGT HQ

DEFINITIONS

Specific supply analysis definitions are listed below:

(1) Amount Authorized of this supply type: Amount of this supply type that this unit is authorized at the end of the TP, this number is calculated by multiplying the number of available systems that use this supply type by the amount authorized per system. This number can change from one TP to another due to weapon losses.

(2) Balance on-Hand of this supply type: Amount of this supply type that this unit has on hand at the end of the TP.

(3) Amount Used during this TP: Amount of this supply type that this unit used during this TP.

(4) Amount Lost during this TP: Amount of this supply type that this unit lost due to attrition of systems (when a system is damaged in combat a percentage (50%) of its on-board supplies are lost).

(5) Ratio of Balance on-Hand to Amount Authorized: A percent value used to indicate overall assessment of a munition; when this percent value is low, a greater risk is indicated as to possibility of exhausting all supplies.

(6) Total Amount Authorized during this TP: The sum of each amount authorized of each supply type at the end of the TP. The stockages are redistributed, consumed, or lost as the scenario proceeds. As units are engaged and attrited, the amount-authorized is reconciled with the number of surviving weapon systems.

(7) Total Amount on-Hand during this TP: The sum of the amount of each supply type that the units actually have in stock at the end of the TP. This amount is reduced by consumption, attrition, and other activities that may reduce the stockage of a supply type.

(8) Total Amount Used during this TP: The sum of the amount of each supply type consumed as a result of movement and combat at the of the TP.

(9) Total Amount Lost during this TP: The sum of the amount of each supply type lost due to attrition of systems at the end of the TP (when a system is damaged in combat, a percentage of its on-board supplies are lost).

(10) Total Amount on-Order during this TP: The sum of the amounts of each supply ordered by each unit during a period. As materiel is consumed, units initiate orders based on a re-order threshold to restock its supplies. If an order cannot be shipped for reasons of shortages of stocks or movers, a unit will re-order the replenishments during the next period.

(11) Timely fashion: The manner in which a unit is supported when a negative consequence did not result. When a maneuver unit calls for replenishment of supplies, the support of the maneuver unit shall be said to be in a "timely fashion," if the maneuver unit did not suffer for lack of supplies. For class III, a unit suffers when it is forced to stop for lack of class III. For class V, a unit suffers a negative consequence when it exhausts a class V supply type.

(12) Risk: The proportion of TPs that each supply type for each unit can be expected to last given the greatest consumption for the scenario. The higher the measure, the greater the quantity of stockage, hence the lower the likelihood of not being able to repeat the highest consumption of a TP.

(13)   Standard Resupply: Maneuver units will generate an order for a supply type when, per the resupply schedule, the on-hand plus on-order quantity is less than 75 percent of the authorized quantity. The magnitude of the order is the amount of each supply type to bring the on-hand plus on-order quantity up to the authorized quantity. Routinely, the order is for 25% of authorized. When the shipment arrives, the on-hand balance will increase, and the maneuver unit will issue an order when the on-hand quantity again falls below the 75% authorized. Exceptions to this resupply process occur when, for lack of trucks or stocks, an order cannot be filled or shipped. When the order (or portion of same) cannot be shipped in the period it was requested, the unfilled portion is lost - there are no backorders or due-outs. The maneuver unit will reassess its needs during the next period. Standard resupply can be divided into two types: supply point distribution (SPD) and unit distribution (UD). A unit that uses SPD provides its own organic transporters to convey replenishments between the supply unit(s) and itself; a unit using UD requires the supply unit to provide both replenishments and transporters.

(14)   Emergency Resupply: Maneuver units will generate an "emergency" order for a supply type when, per the resupply schedule, the on-hand plus on-order quantity is less than 50 percent of the authorized quantity. The magnitude of the order is the amount of each supply type to bring the on-hand quantity up to 50% of the authorized quantity. When the shipment arrives, the on-hand balance will increase. This is "emergency resupply." Emergency resupply is subject to a number of factors: (1) the availability of replenishment stockages; (2) the availability of helicopter support to provide airlift between the supporting CSS unit(s) and the requesting maneuver unit; and (3) the hostile environment surrounding the maneuver unit. If the scenario is short-lived or has intensive combat, the last factor can be the most limiting. Helicopters will not provide lift to maneuver units that are under assault. If any one of the factors prohibits emergency resupply, the "emergency" request for replenishments will be routed for "standard" resupply. When the order (or portion of same) cannot be shipped in the time period it was requested, the unfilled portion is lost - there are no backorders or due-outs - the unit must wait for the next period per the resupply schedule to assess its stockage position and re-order.

APPENDIX C

FIGURES AND TABLES

Unit Name	Amount Shipped	# of Non-Deliveries	Minimum Time to Deliver	Avg Time to Deliver	Maximum Time to Deliver
B001CSA	237,108.68	38	4.75	31.3	52
B00FCSB	4,533.18	1	20	20	20
B00RCSB	28,707.29	47	0	23	47
B02FCSB	14,143.22	3	1	9.8	14.5
B02RCSB	7,176.12	28	17	31	47
B300DSB	44,894.55	10	1.5	14.8	28.5
B3013FC	5,094.98	1	18	18	18
B3014FC	5,135.03	1	14	14	14
B301FSB	16,168.34	7	0	9.7	25
B3023FC	10,287.44	2	6	9.5	13
B3024FC	5,161.67	1	13	13	13
B302FSB	64.6	1	16	16	16

Order to Deliver, Class III
Table C-1

Unit Name	Amount Shipped	# of Non-Deliveries	Minimum Time to Deliver	Avg Time to Deliver	Maximum Time to Deliver
B001ASP	104,108.61	208	0.12	42.4	59.8
B002ASP	86,180.66	35	15.5	33.5	45
B003ASP	50,012.63	28	9.68	18.17	30.5
B004ASP	52,782.4	32	14.13	45.18	59
B005ASP	510	11	31	46.36	59
B300DSB	1,640.67	2	8.5	16	23.5
B3011FC	56	1	16	16	16
B3012FC	56	1	17	17	17
B301ATP	4,408.13	13	1.5	13.07	59
B3021FC	6	1	1	1	1
B3024FC	28	1	6	6	6
B302ATP	4,310.34	10	0.75	12.29	59

Order to Deliver, Class V
Table C-2

TP	USED GALS	LOST GALS	REQUIREMENT CONSUMED	AMOUNT RECEIVED BY AIR	AMOUNT RECEIVED BY TRUCK	AMOUNT REQUESTED	AMOUNT SHIPPED	% of ORDERED
0	0	0	0	0	0	0	0	---
1	6,168	0	6,168	0	0	0	0	---
2	5,095	0	5,095	0	0	0	0	---
3	5,401	0	5,401	0	0	0	0	---
4	6,193	0	6,193	0	0	0	0	---
5	11,580	0	11,580	0	0	0	0	---
6	13,541	0	13,541	0	0	0	0	---
7	10,683	0	10,683	0	0	0	0	---
8	18,786	0	18,786	0	0	10,024	10,024	100
9	25,915	3	25,917	0	10,024	11,096	11,096	100
10	39,642	134	39,776	0	0	3,293	3,293	100
11	42,258	2,717	44,976	0	13,278	17,322	17,322	100
12	18,162	82	18,243	0	16,219	16,726	16,726	100
13	22,470	39	22,508	0	1,168	11,090	11,090	100
14	16,065	199	16,265	0	22,321	14,915	14,915	100
15	10,393	0	10,393	0	18,962	13,352	13,352	100
TOTAL	252,352	3,174	255,525	0	81,972	97,819	97,819	100

Consumption of Class III (SDID-O), Gallons
Table C-3

TP	USED STONS	LOST STONS	REQUIREMENT CONSUMED	AMOUNT RECEIVED BY AIR	AMOUNT RECEIVED BY TRUCK	AMOUNT REQUESTED	AMOUNT SHIPPED	% of ORDERED
0	0	0	0	0	0	0	0	---
1	0	0	0	0	68	96	68	71
2	0	0	0	0	0	---	---	---
3	0	0	0	0	0	---	---	---
4	0	0	0	0	0	---	---	---
5	0	0	0	0	0	---	---	---
6	0	0	0	0	0	---	---	---
7	0	0	0	0	0	---	---	---
8	43	0	43	0	0	276	68	25
9	13	0	13	2	67	---	---	---
10	57	3	60	0	33	41	41	100
11	526	43	569	0	13	286	245	86
12	182	1	183	11	42	68	45	66
13	575	0	575	92	121	159	121	76
14	315	2	317	150	82	421	175	42
15	9	0	9	0	6	258	200	78
TOTAL	1,719	49	1,768	255	433	1,606	963	60

Consumption of Class V (SDID-O), STONS
Table C-4

TP	USED GALS	LOST GALS	REQUIREMENT CONSUMED	AMOUNT RECEIVED BY AIR	AMOUNT RECEIVED BY TRUCK	AMOUNT REQUESTED	AMOUNT SHIPPED	% of ORDERED
0	0	0	0	0	0	0	0	---
1	69,334	1,128	70,462	0	0	0	0	---
2	60,861	609	61,470	0	0	88,771	42,285	48
3	50,530	402	50,932	0	0	170,625	54	0
4	44,458	138	44,596	0	1,179	150,866	3,608	2
5	30,076	28	30,104	0	45,909	272,738	52,821	19
6	39,731	0	39,731	0	3,618	194,767	3,633	2
7	41,980	180	42,161	0	51,681	94,166	48,349	51
8	21,563	453	22,017	0	3,566	121,127	9,288	8
9	62,101	190	62,291	0	3,632	130,210	8,645	7
10	25,025	188	25,213	0	49,512	184,926	75,560	41
11	45,652	522	46,174	15,485	13,206	152,348	8,361	5
12	39,281	121	39,402	16,150	71,012	57,914	7,652	13
13	42,109	400	42,510	0	12,885	53,861	2,396	4
14	11,902	0	11,902	0	2,397	64,976	12,477	19
15	11,856	15	11,871	0	7,649	55,762	2,397	4
TOTAL	596,459	4,375	600,834	31,635	266,245	1,793,058	277,525	15

Consumption of Class III (CORPS), Gallons
Table C-3a

TP	USED STONS	LOST STONS	REQUIREMENT CONSUMED	AMOUNT RECEIVED BY AIR	AMOUNT RECEIVED BY TRUCK	AMOUNT REQUESTED	AMOUNT SHIPPED	% of ORDERED
0	0	0	0	0	0	0	0	---
1	1,987	16	2,003	98	0	1,439	1,416	98
2	1,623	11	1,634	273	0	704	535	76
3	960	10	970	602	229	1,085	700	65
4	578	3	580	404	547	197	195	99
5	467	0	468	119	471	227	227	100
6	581	0	581	239	470	179	179	100
7	542	3	546	173	689	172	172	100
8	801	15	816	26	586	538	419	78
9	997	5	1,002	30	80	971	851	88
10	432	6	438	44	339	86	62	72
11	469	5	475	63	292	250	250	100
12	343	4	347	97	503	229	229	100
13	215	8	222	73	606	44	44	100
14	26	0	26	0	193	1	1	100
15	25	0	25	0	77	4	4	100
TOTAL	10,046	87	10,133	2,241	5,082	6,125	5,282	81

Consumption of Class V (CORPS), STONS
Table C-4a

CLASS III & V (SDID-O), TRUCKLOADS BY TP

TP	120MM	2.75RKT	ER-MLRS	JAVELIN	LONGBOW	M107(CB)	N26	M449A1	M483A1	M795	M933	MSTAR	POL-B	POL-BACFT	STINGER	XM982	TOTAL
1	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
2	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
3	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
4	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
5	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
6	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
7	---	---	---	---	---	2.60	---	---	---	---	---	---	---	---	---	---	2.6
8	---	4.61	0.02	---	1.39	2.60	---	---	---	---	---	---	---	4.01	---	---	12.63
9	---	4.61	0.02	---	1.39	2.60	---	---	---	---	---	---	4.44	4.01	---	---	17.07
10	---	4.61	0.27	---	1.39	2.60	---	---	---	---	---	---	5.10	4.01	1.26	---	19.24
11	---	4.61	0.77	---	1.39	3.81	3.52	0.21	2.50	1.02	0.68	---	7.37	8.43	1.26	0.68	35.57
12	---	4.61	0.89	0.12	1.39	5.17	3.52	0.21	2.50	1.02	0.94	---	13.77	8.43	1.26	0.68	43.83
13	0.13	4.61	0.89	0.12	1.39	6.37	6.48	0.21	2.50	1.02	0.94	0.86	18.21	8.43	1.26	1.00	53.42
14	0.13	4.61	0.89	0.12	1.39	7.73	6.48	0.72	5.63	2.04	1.02	0.86	20.30	12.30	1.26	1.34	65.48
15	0.13	4.61	0.89	0.16	1.39	10.07	6.48	0.72	10.38	2.04	1.02	0.86	21.02	16.21	1.26	1.55	56.22

CLASS III & V (SDID-O), PERCENTAGE BY TP

TP	120MM	2.75RKT	ER-MLRS	JAVELIN	LONGBOW	M107(CB)	N26	M449A1	M483A1	M795	M933	MSTAR	POL-B	POL-BACFT	STINGER	XM982	TOTAL
1	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
2	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
3	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
4	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
5	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
6	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
7	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	100
8	---	36.5	0.16	---	11.01	20.59	---	---	---	---	---	---	---	31.75	---	---	100
9	---	27.01	0.12	---	8.14	15.23	---	---	---	---	---	---	26.01	23.49	0	---	100
10	---	23.96	1.4	---	7.22	13.51	---	---	---	---	---	---	26.51	20.84	6.55	---	100
11	---	12.96	2.16	---	3.91	10.71	9.9	0.59	7.03	2.87	1.91	---	20.72	23.7	3.54	1.91	100
12	---	10.52	2.03	0.27	3.17	11.8	8.03	0.48	5.7	2.33	2.14	---	31.42	19.23	2.87	1.55	100
13	0.24	8.63	1.67	0.22	2.6	11.92	12.13	0.39	4.68	1.91	1.76	1.61	34.09	15.78	2.36	1.87	100
14	0.2	7.04	1.36	0.18	2.12	11.81	9.9	1.1	8.6	3.12	1.56	1.31	31	18.78	1.92	2.05	100
15	0.23	8.2	1.58	0.28	2.47	17.91	11.53	1.28	18.46	3.63	1.81	1.53	37.39	28.83	2.24	2.76	100

Truckloads On-Road, CSS-to-Maneuver Units
Table C-5

CLASS III & V (CORPS), TRUCKLOADS BY TP

TP	2.75RKT	ER-MLRS	LONGBOW	M107(CB)	M116B1	M26	M449A1	M549A1	M795	M864	MSTAR	POL-B	POL-BACFT	STINGER	XM898	XM982	TOTAL
1	---	0.76	---	8.28	2.25	22.67	---	10.47	5.23	5.81	21.39	---	---	---	0.90	1.67	77.76
2	4.38	1.09	1.39	13.37	2.25	32.84	0.33	10.47	5.95	6.23	21.39	---	16.91	0.51	1.42	1.97	118.53
3	4.38	1.95	1.39	13.41	2.25	60.04	0.33	10.47	7.39	6.23	24.48	---	16.93	0.51	2.13	1.97	151.89
4	4.38	1.95	1.39	13.41	2.25	67.88	0.33	10.47	9.09	6.23	24.48	---	19.92	0.51	3.17	1.97	165.46
5	4.38	1.95	1.39	15.10	2.25	77.75	0.88	10.47	9.09	6.23	24.48	---	42.60	0.51	3.17	1.97	200.25
6	4.38	2.29	1.39	15.10	2.25	81.58	0.88	10.47	9.09	6.23	24.48	---	45.60	0.51	3.17	2.17	207.42
7	4.38	2.59	1.39	20.33	2.25	85.31	1.17	10.47	9.74	6.51	24.48	---	65.99	0.51	3.60	2.17	238.72
8	8.66	2.91	1.39	20.33	2.25	98.07	1.87	13.83	9.74	6.75	24.48	---	71.25	0.66	4.30	2.17	266.49
9	8.66	3.23	1.39	20.33	2.25	137.23	1.87	13.94	12.20	7.93	24.48	---	76.23	0.66	4.30	2.50	314.7
10	8.66	3.54	1.39	20.62	2.25	137.23	1.87	14.24	12.73	8.14	24.48	1.81	106.19	0.66	4.71	2.74	348.52
11	8.66	4.10	1.39	21.18	2.25	137.23	1.87	14.24	13.30	8.14	28.03	1.81	110.57	1.82	4.71	2.74	359.3
12	8.66	4.10	1.39	21.18	2.25	144.78	1.87	15.10	13.30	8.14	31.31	1.81	114.67	1.82	4.71	2.70	375.09
13	8.66	4.67	1.39	21.18	2.25	144.78	1.87	17.02	13.30	8.80	31.31	1.81	116.67	1.82	4.71	2.70	380.24
14	8.66	4.67	1.39	21.18	2.25	144.78	1.87	17.13	13.30	8.80	31.31	1.81	122.69	1.82	4.71	2.70	386.37
15.00	8.66	4.70	1.39	21.20	2.25	144.80	1.90	17.20	13.30	9.09	31.31	1.81	124.69	1.82	4.71	2.70	388.83

CLASS III & V (CORPS) PERCENTAGE BY TP

TP	2.75RKT	ER-MLRS	LONGBOW	M107(CB)	M116B1	M26	M449A1	M549A1	M795	M864	MSTAR	POL-B	POL-BACFT	STINGER	XM898	XM982	TOTAL
1	---	0.98	---	10.65	2.89	29.15	---	13.46	6.73	7.47	27.51	---	---	---	1.16	2.15	100
2	3.70	0.92	1.17	11.28	1.90	27.71	0.28	8.83	5.02	5.26	18.05	---	14.27	0.43	1.20	1.66	100
3	2.88	1.28	0.92	8.83	1.48	39.53	0.22	6.89	4.87	4.10	16.12	---	11.15	0.34	1.40	1.30	100
4	2.65	1.18	0.84	8.10	1.36	41.03	0.20	6.33	5.49	3.77	14.80	---	12.04	0.31	1.92	1.19	100
5	2.19	0.97	0.69	7.54	1.12	38.83	0.44	5.23	4.54	3.11	12.22	---	21.27	0.25	1.58	0.98	100
6	2.11	1.10	0.67	7.28	1.08	39.33	0.42	5.05	4.38	3.00	11.80	---	21.98	0.25	1.53	1.05	100
7	1.83	1.08	0.58	8.52	0.94	35.74	0.49	4.39	4.08	2.73	10.25	---	27.64	0.21	1.51	0.91	100
8	3.25	1.09	0.52	7.63	0.84	36.80	0.70	5.19	3.65	2.53	9.19	---	26.74	0.25	1.61	0.81	100
9	2.75	1.03	0.44	6.46	0.71	43.61	0.59	4.43	3.88	2.52	7.78	---	24.22	0.21	1.37	0.79	100
10	2.48	1.02	0.40	5.92	0.65	39.38	0.54	4.09	3.65	2.34	7.02	0.52	30.47	0.19	1.35	0.79	100
11	2.41	1.14	0.39	5.89	0.63	38.19	0.52	3.96	3.70	2.27	7.80	0.50	30.77	0.51	1.31	0.76	100
12	2.31	1.09	0.37	5.65	0.60	38.60	0.50	4.03	3.55	2.17	8.35	0.48	30.57	0.49	1.26	0.72	100
13	2.28	1.23	0.37	5.57	0.59	38.08	0.49	4.48	3.50	2.31	8.23	0.48	30.68	0.48	1.24	0.71	100
14	2.24	1.21	0.36	5.48	0.58	37.47	0.48	4.43	3.44	2.28	8.10	0.47	31.75	0.47	1.22	0.70	100
15	2.23	1.21	0.36	5.45	0.58	37.24	0.49	4.42	3.42	2.34	8.05	0.47	32.07	0.47	1.21	0.69	100

Truckloads On-Road, CSS-to-Maneuver Units
Table C-5a

CLASS III (SDID-O), AMOUNT ON HAND BY UNIT BY TP

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B300D002	3,763	3,716	3,677	3,637	3,589	3,497	3,425	3,370	3,291	3,154	2,987	2,915	2,874	2,832	2,791	2,749
B3000AD	3,986	3,962	3,938	3,913	3,888	3,857	3,817	3,772	3,727	3,675	3,616	3,557	3,511	3,468	3,419	3,351
B3000DC	39,805	39,673	39,539	39,402	39,208	38,956	38,723	38,536	38,332	38,060	37,805	37,566	37,344	37,132	36,917	36,661
B3000EN	715	709	703	697	691	681	671	657	640	626	601	568	556	549	542	536
B3001LH	35,771	35,771	35,771	35,771	35,771	35,771	35,771	35,771	35,771	35,090	33,617	30,581	29,210	27,626	26,035	24,421
B3000M2	4,300	4,276	4,250	4,225	4,199	4,159	4,091	4,037	3,964	3,926	3,829	3,751	3,724	3,696	3,667	3,640
B3000MX	33,538	33,212	32,882	32,548	32,209	31,879	31,297	30,758	30,096	29,197	27,708	26,588	26,220	25,859	25,487	25,132
B3001DC	4,991	4,985	4,979	4,973	4,784	4,566	4,403	4,273	4,116	3,264	2,569	3,025	2,656	2,529	2,404	2,285
B3001H2	21,993	21,575	21,149	20,719	20,282	19,273	18,229	17,538	16,578	14,440	12,491	16,963	16,142	14,758	14,461	19,664
B3002DC	4,991	4,985	4,979	4,973	4,819	4,613	4,416	4,286	4,135	3,311	2,603	2,840	2,194	3,134	2,981	2,821
B3002H2	21,993	21,453	21,027	20,597	20,159	19,466	18,626	17,817	16,885	15,896	14,322	17,785	16,353	14,973	20,231	19,932
B3003DC	4,991	4,985	4,979	4,973	4,824	4,632	4,418	4,289	4,141	3,316	2,502	31,547	31,244	30,945	30,635	30,326
B3004EN	15,370	15,230	15,094	14,958	14,788	14,511	14,289	14,104	13,872	13,417	13,002	12,541	12,390	12,253	12,109	11,969
B300AAD	5,327	5,304	5,281	5,258	5,230	5,152	5,055	4,998	4,934	4,867	4,717	4,575	4,457	4,359	4,271	4,140
B300AEN	8,054	7,827	7,608	7,390	7,059	6,743	6,402	5,943	5,642	5,231	4,811	4,383	3,940	3,697	4,822	4,571
B300AM2	12,162	12,000	11,834	11,666	11,494	11,316	10,900	10,597	10,206	9,999	9,513	9,074	8,853	8,725	8,599	8,455
B300BAD	5,327	5,273	5,250	5,226	5,202	5,164	5,113	5,056	4,971	4,861	4,775	4,647	4,540	4,440	4,338	4,233
B300BEN	8,054	7,827	7,608	7,390	7,145	6,773	6,478	6,220	5,915	5,403	4,921	4,403	4,148	3,931	3,703	3,479
B300BM2	12,162	12,000	11,834	11,666	11,494	11,325	11,113	10,819	10,587	10,262	9,927	9,267	8,941	8,655	8,446	8,291
B300CEN	8,054	7,827	7,608	7,390	7,145	6,773	6,478	6,220	5,915	5,403	4,921	4,403	4,150	3,931	3,701	3,477
B300CM2	12,162	12,000	11,834	11,666	11,494	11,325	11,113	10,819	10,587	10,262	9,927	9,267	8,941	8,655	8,445	8,290
B300DEN	8,054	7,829	7,610	7,392	7,173	6,859	6,555	6,259	5,922	5,670	5,229	4,403	4,374	4,030	3,703	3,479
B300EEN	8,054	7,829	7,610	7,392	7,173	6,859	6,555	6,259	5,922	5,670	5,229	4,756	4,374	4,030	3,813	3,601
B300FEN	8,054	7,829	7,610	7,392	7,173	6,859	6,555	6,259	5,922	5,670	5,229	4,756	4,374	4,030	3,813	3,601
B300GEN	8,054	7,829	7,610	7,392	7,173	6,859	6,555	6,259	5,922	5,670	5,229	4,756	4,374	4,030	3,813	3,601
B300HEN	7,232	7,074	6,966	6,858	6,751	6,647	6,545	6,445	6,343	6,253	6,155	6,058	5,960	5,867	5,773	5,682
B30100H	70,674	70,256	69,856	69,452	69,052	68,642	68,235	67,844	67,411	67,028	66,624	66,198	65,767	65,356	64,922	64,493
B3010MX	40,040	39,878	39,711	39,543	39,370	39,054	38,717	38,491	38,187	37,767	37,162	36,642	36,456	36,238	36,032	35,841
B3010RE	250	248	245	243	238	230	223	219	213	199	185	169	231	229	226	224
B3011MX	22,486	22,412	22,338	22,262	21,980	21,341	20,875	20,572	20,065	18,124	15,712	12,873	12,395	12,012	11,634	11,289
B3012MX	22,486	22,412	22,338	22,262	22,143	21,334	20,901	20,592	20,115	18,454	16,160	13,684	13,405	13,094	12,771	12,464
B3013AR	25,535	25,465	25,393	25,321	25,247	24,651	23,232	22,745	22,071	20,049	16,245	11,859	16,560	16,176	15,825	15,437
B3014AR	25,535	25,465	25,393	25,321	25,247	24,616	23,260	22,858	22,139	20,445	16,618	13,996	13,606	12,972	17,335	16,974
B3020AR	40,040	39,840	39,674	39,505	39,333	39,100	38,852	38,546	38,265	37,952	37,505	36,952	36,551	36,248	35,841	35,488
B3020RE	250	246	243	241	238	235	230	225	218	204	192	184	180	242	240	237
B3021MX	22,486	22,107	22,033	21,957	21,880	21,576	21,121	20,713	20,038	19,733	17,675	15,288	13,251	11,801	11,380	10,858
B3022MX	22,486	22,295	22,220	22,144	22,067	21,762	21,376	20,967	20,361	19,977	18,366	15,924	14,596	12,336	11,774	11,230
B3023AR	25,535	25,273	25,202	24,850	24,776	24,371	23,811	23,195	22,457	21,767	19,202	15,306	13,484	10,623	13,086	12,201
B3024AR	25,535	25,273	25,202	25,130	25,056	24,617	24,088	23,482	22,689	21,988	19,712	15,820	13,881	11,370	13,590	12,811
B3031IT	2,752	2,730	2,711	2,692	2,672	2,653	2,634	2,615	2,595	2,580	2,484	2,452	2,433	2,413	2,393	2,373

CLASS III (SDID-O), AMOUNT ON-HAND BY UNIT BY TP

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B3QA00H	57,275	57,275	57,275	57,275	57,275	57,275	57,275	57,275	44,542	54,022	44,520	35,654	43,825	34,571	25,089	28,583
B3QC00H	197,529	197,529	197,529	197,529	197,529	197,529	197,529	197,529	195,892	190,929	188,133	184,724	179,869	172,246	168,066	163,861

CLASS III (SDID-O) AMOUNT ON-HAND TABLE C-6

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CLASS III (CORPS), AMOUNT ON-HAND BY UNIT BY TP

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B000000	72,184	68,141	64,034	59,924	55,771	52,924	50,142	46,278	43,481	41,162	38,548	34,770	48,255	44,507	40,757	37,058
B000CFC	71,884	67,842	63,730	59,499	56,528	54,883	53,181	51,467	49,812	48,207	46,653	45,152	43,703	42,310	40,967	39,673
B000GRP	4,443	4,365	4,289	4,212	4,136	4,058	3,981	3,907	3,827	3,756	3,680	3,601	3,520	3,442	3,361	3,280
B000PAT	2,391	2,363	2,334	2,305	2,275	2,245	2,216	2,187	2,157	2,133	2,104	2,074	2,043	2,013	1,982	1,951
B000RGT	4,443	4,365	4,289	4,212	4,136	4,060	3,983	3,910	3,830	3,770	3,696	3,617	3,537	3,459	3,378	3,297
B001PAT	8,250	8,200	8,153	8,103	8,053	8,001	7,950	7,900	7,847	7,800	7,750	7,696	7,642	7,591	7,536	7,482
B002PAT	8,250	8,200	8,153	8,103	8,053	8,001	7,950	7,900	7,847	7,800	7,749	7,696	7,642	7,591	7,536	7,482
B003PAT	8,250	8,200	8,153	8,103	8,053	8,002	7,950	7,902	7,849	7,809	7,760	7,707	7,653	7,602	7,547	7,493
B004PAT	8,250	8,200	8,153	8,103	8,053	8,002	7,950	7,902	7,849	7,809	7,760	7,707	7,653	7,602	7,547	7,494
B00A002	2,115	2,064	2,007	1,930	1,862	1,821	1,788	1,757	1,724	1,699	1,663	1,626	1,594	1,563	1,532	1,501
B00A00H	393,885	326,929	280,115	232,265	193,345	212,432	179,416	184,785	177,343	125,365	149,022	119,625	132,093	95,477	93,861	82,664
B00A1M2	37,324	36,458	34,966	34,455	34,127	33,812	33,493	33,184	32,852	32,597	32,192	31,854	31,526	31,202	30,875	30,550
B00A2M2	37,324	36,337	34,992	34,419	34,082	33,758	33,432	33,114	32,769	32,506	32,059	31,547	31,244	30,945	30,635	30,326
B00A3H2	19,577	18,613	16,680	16,041	15,820	15,601	15,373	15,141	14,881	14,660	14,227	13,949	13,552	12,958	12,776	12,597
B00A4H2	19,577	18,633	16,905	16,057	15,848	15,643	15,426	15,199	14,943	14,745	14,502	14,159	13,943	13,730	13,481	13,230
B00AVNB	4,443	4,365	4,289	4,212	4,136	4,058	3,981	3,907	3,827	3,756	3,680	3,601	3,520	3,442	3,361	3,280
B00B00H	182,715	171,821	165,421	162,837	160,338	157,060	153,895	148,099	141,216	135,393	132,688	129,633	143,637	140,462	137,222	133,990
B00C002	2,115	2,057	2,000	1,958	1,924	1,855	1,797	1,743	1,700	1,662	1,608	1,576	1,544	1,512	1,480	1,449
B00C1M2	37,324	36,387	35,327	34,793	34,472	33,791	33,452	33,031	32,315	31,808	31,516	31,230	30,833	30,476	30,102	29,691
B00C2M2	37,324	36,073	34,971	34,460	34,065	33,427	33,091	32,666	32,084	31,574	31,308	31,042	30,655	30,285	29,902	29,503
B00C3H2	19,577	18,229	16,939	16,449	16,043	15,285	14,957	14,562	13,603	13,150	12,903	12,642	12,315	16,537	16,197	15,842
B00E002	2,115	2,084	2,051	2,019	1,985	1,953	1,920	1,888	1,855	1,829	1,796	1,763	1,728	1,695	1,660	1,625
B00E00H	47,880	47,880	42,449	40,712	38,536	36,433	34,391	39,371	37,288	35,708	33,774	37,466	35,419	33,429	31,396	34,642
B00E1T2	3,514	3,451	3,400	3,345	3,286	3,229	3,171	3,114	3,055	3,025	2,969	2,910	2,850	2,791	2,731	2,671
B00E2T2	3,514	3,454	3,402	3,347	3,287	3,230	3,172	3,115	3,055	3,025	2,968	2,908	2,848	2,788	2,727	2,666
B00E3T2	3,514	3,453	3,401	3,346	3,287	3,229	3,171	3,114	3,054	3,027	2,970	2,910	2,850	2,790	2,729	2,668
B00E4T2	3,514	3,461	3,408	3,353	3,292	3,234	3,175	3,117	3,056	2,987	2,912	2,870	2,827	2,781	2,733	2,684
B00E5T2	3,514	3,461	3,408	3,354	3,295	3,238	3,180	3,124	3,063	2,986	2,940	2,894	2,847	2,798	2,746	2,694
B00E6T2	3,514	3,461	3,408	3,353	3,293	3,234	3,175	3,117	3,056	3,028	2,964	2,914	2,864	2,810	2,753	2,695
B00E7T2	3,514	3,455	3,402	3,348	3,285	3,228	3,170	3,113	3,054	3,008	2,951	2,892	2,832	2,772	2,711	2,650
B00E8T2	3,514	3,461	3,408	3,354	3,288	3,231	3,172	3,115	3,055	3,009	2,951	2,892	2,831	2,771	2,709	2,648
B00E9T2	3,514	3,461	3,408	3,354	3,290	3,232	3,173	3,116	3,056	3,009	2,952	2,892	2,831	2,770	2,709	2,647
B00F00H	47,880	47,880	47,880	47,880	47,880	47,880	47,880	47,880	41,366	41,070	35,035	28,963	36,791	42,556	42,378	42,188
B00G002	2,115	2,084	2,051	2,013	1,956	1,880	1,827	1,769	1,713	1,682	1,651	1,619	1,587	1,556	1,524	1,493
B00G00H	47,880	47,880	42,102	41,542	40,081	38,647	36,118	32,250	29,202	27,779	30,687	34,235	32,787	31,377	29,922	28,495
B00G1M2	37,324	36,887	36,441	35,988	35,525	35,077	34,622	34,179	33,715	33,358	32,915	32,454	31,986	31,523	31,054	30,585
B00G2M2	37,324	36,863	36,434	35,828	35,157	33,988	33,630	33,257	32,949	32,716	32,419	32,101	31,775	31,469	31,162	30,855
B00G3M2	37,324	36,899	36,465	35,955	35,300	34,310	33,605	33,219	32,883	32,531	32,202	31,866	31,539	31,217	30,893	30,556

CLASS III (CORPS) AMOUNT ON-HAND TABLE C-6a