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**PLANNING CONSIDERATIONS FOR THE USE OF
PREPOSITIONING OF MATERIAL CONFIGURED TO
UNIT SETS**

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

MASTER OF MILITARY ART AND SCIENCE

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by

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Fort Leavenworth, Kansas
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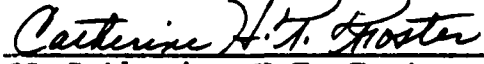
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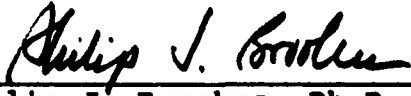

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

PLANNING CONSIDERATIONS FOR THE USE OF PREPOSITIONING OF MATERIAL CONFIGURED TO UNIT SETS by MAJ Gary M. Gentry, USA, 106 pages.

This study establishes planning considerations for the use of Prepositioning of Equipment Configured to Unit Sets (POMCUS) in support of prepositioning strategies for a theater of operation. The considerations are based on an analysis of the theories of prepositioning, based on the assessment of the capabilities and the limiting factors of POMCUS, and on a comparative study of lessons learned from previous exercises designed to test and evaluate the POMCUS program.

POMCUS is examined as a means to satisfy National Strategy for forward presence and rapid projection of land based heavy combat forces into a theater. The capabilities and limiting factors of POMCUS are assessed by studying the deployment systems, goals/objectives, threat, costs, base operations, host nation relationship, and composition of stored material. A comparative study of lessons learned from previous prepositioning efforts include the Marine prepositioning program Norway, Israeli Defense Force Prepositioning, post Berlin Crises (Cold War) POMCUS program, and POMCUS support to Desert Storm.

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CHAPTER 1

Introduction

Background

Prepositioning, one of the three programs of the Strategic Mobility Triad, is the storage of equipment, supplies, repair parts, rations, etc., in strategic locations throughout the world. See Fig 1-1.¹ These stores are maintained by commodity or in unit set configuration. The unit set configuration is best exemplified by the Army's Prepositioning of Material Configured to Unit Sets (POMCUS) program in Europe. Storage configuration, combat systems upload, limited preservation, and controlled humidity storage facilities all make the POMCUS system the one of the fastest methods of deploying and equipping medium/heavy reinforcing forces to Europe. Additionally, it reduces the burden on the air and sealift legs of the Strategic Mobility Triad.

Although, large programs similar to POMCUS exist in the U.S. Marines and in the Israeli Defense Force, the

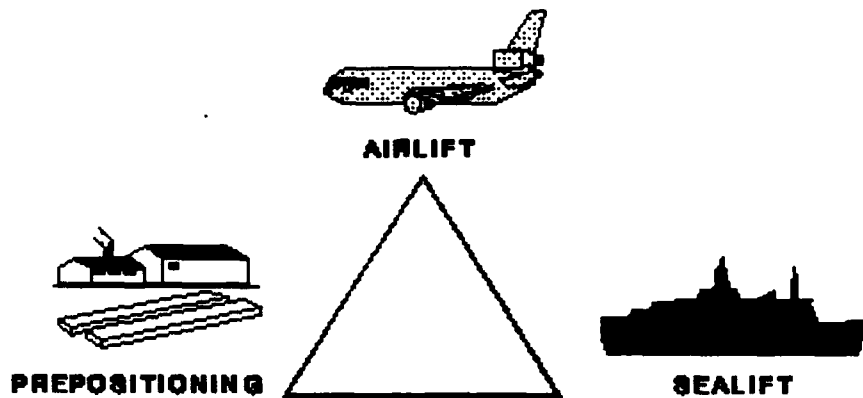


Figure 1-1 STRATEGIC MOBILITY TRIAD

Army currently has the only POMCUS program in existence. Fifteen companies in four battalions spread over four countries in Europe administer the Army program. Composed of a mixed multi-national civilian and U.S. military workforce, these companies receive, configure, store, maintain, and issue the POMCUS unit sets to deploying forces.

Lessons learned from the Berlin Crisis of 1948, Operation Big Lift of 1961, and the London Tripartite Agreements of 1967 created the need for POMCUS and the Return of Forces To Germany (REFORGER) exercises. These large scale exercises and the smaller Flintlock exercises in Great Britain all substantiate the effectiveness of the program. Additionally, POMCUS stocks provided vast amounts of equipment to Southwest Asia in support of

Desert Shield/Storm/ Comfort and to the United States Army Europe (USAREUR) to support reserve backfill units.

Recently, the United States National Strategy Document revealed the prepositioning concept as part of our military strategy. Prepositioning, as outlined in the document would support the strategies of Forward Presence and Deployment/Mobility.² Both strategies would offer options to the forward stationing of forces into theaters perceived as key to the U.S. national interests.

The Army considered prepositioning, specifically the POMCUS concept, key to securing the Persian Gulf region at the conclusion of the Operation Desert Storm. A team of experts from Europe spent months in Saudi Arabia studying the issue. The POMCUS management concept under consideration was similar to the Netherlands program of Europe. To date, permission from the Arab States has not been received and the placement of POMCUS into the Persian Gulf Region remains unresolved.

Assuming that the United States is interested in the use of prepositioning to satisfy national military strategies, and assuming that the POMCUS concept is a viable means to support the larger combat forces in the medium to heavy combat scenario; what were the historic planning considerations for the placement of POMCUS into

the European theater? This thesis answers that question and provides planning considerations to assist logistical and operational planners with future prepositioning of POMCUS into theaters in support of the national interests of the United States.

Operational Key Definitions

All definitions are derived from a basic definition with an interpretation of application or correlation to the study.

1. Accessibility for POMCUS means permission, ability, or liberty to enter, approach, communicate with or pass to and from the stored equipment freely. Additionally it is the freedom and the ability to obtain or make use of the equipment as deemed necessary by the United States' National Command Authority.

2. Deterrence means the maintaining of vast military power and weaponry to discourage or prevent a threat to national security from committing an act of aggression. For example, in the European theater, an act of aggression would be massing of troops on borders or an

invasion of any of the North Atlantic Treaty Organization countries.

3. Dual Base Concept refers to the stationing of the larger portion of a division in the United States and leaving a smaller portion forward deployed in Europe. The 24th Infantry Division, for example might have a brigade in Europe with two brigades and support slice in the United States. The brigade in Europe would act as a forward deployed advanced party for the division during times of deployment. In relation to POMCUS, a unit physically stationed in the continental United States would have a set of equipment at home station and a set of equipment in Europe for contingency purposes. The organization, then could simply fly to Europe without equipment and fight using the European equipment.

4. Flexibility means the ready capability to adapt to new, different or changing requirements or conditions. The measure of flexibility for POMCUS is twofold. First, flexibility for POMCUS considers its ability to shift equipment support to other than the designated area of responsibility. Secondly, flexibility for POMCUS is measured by the ability of the organization

to change the structure of the storage configuration as quickly as the requirement changes.

5. Responsiveness means the ability to constitute an answer or react to an action. Responsiveness for the armed forces is measured in its ability to react to and act upon a threat to national security with military action. For POMCUS, responsiveness equates to the United States Armed Forces' ability to deploy the needed manpower to the appropriate storage site within the required timeframe. Additionally, responsiveness is measured by the storage sites' ability to shorten issue times for a drawing unit and to configure the required equipment in such a manner as to shorten the units' amount of time in the marshalling area configuring for combat.

6. Stability means firmly established and having the qualities to resist forces that tend to cause change in the established environmental conditions. Stability measures for POMCUS center on the effects of the program on the social and political aspects of the chosen society. Additionally, perceived or real impacts on military balance of power in the region are considered in the definition of stability for POMCUS.

7. Threat is any force that expresses or demonstrates an intent to jeopardize any or a portion of the national interests of the United States or allies of the United States. Threats can come from the social, economic, political or military elements of power of foreign nations. Normally military power is considered to counter a threat if hostilities are deemed imminent. The military threat can come in many forms, sizes and capabilities. It is this variation in capabilities and size of threat that POMCUS is designed to counter.

8. Vulnerability is the capability and susceptibility of being damaged, hurt, detected, viewed or attacked. Usually for POMCUS this concern centers around security issues both locally and from cross border operations.

9. Berlin Crisis was the 1961 attempt of the Soviet Union to block all access into the city of Berlin. Aerial resupply was used for several months to feed the city and ultimately break the Soviet blockade.

10. London Tripartite Agreement of 1967 was the agreement signed by England, the United States, and

Germany to renegotiate the unequal and unfair distribution of responsibilities of the United States for the defense of Europe. From this agreement came Return of Forces to Germany (REFORGER) and the Dual Based Concept.

11. Return of Forces to Germany (REFORGER) is a mandated exercise to demonstrate annually the capability of the United States to deploy to reinforce Europe under the London Tripartite Agreement of 1967.

12. Flintlock is the Special Forces' version of the reinforcement of Europe. The exercise is conducted twice a year in England to demonstrate the ability of the United States Special Forces to deploy, draw POMCUS, and employ in Europe.

13. Desert Shield/Storm/Provide Comfort refer to the different names given to the phases of the war between the Coalition forces and Iraq in 1989/90. Desert Shield was the initial deployment, lodgement, and build up. Desert Storm was the start and duration of hostile activities by all land, air and naval forces of the coalition. Provide Comfort was the relief actions taken to assist the Kurdish refugees in northern Iraq after the

call for ceasefire.

14. Warning time is viewed, traditionally, as that period of time between the initial intelligence reports indicating or forecasting the likelihood of an event and the time some hostile act causes a commitment of force.

Assumptions

The United States, by virtue of attempts to secure authority to place POMCUS sites in numerous Southwest Asian countries, perceive the European POMCUS program as a model for applications worldwide.

In reviewing the National Security Strategy President Bush proposes prepositioning as one of the key aspects replacing forward stationing of troops in Europe. Additionally, he states the need to place storage of heavy equipment into Southwest Asia. POMCUS is the most likely program to be placed into these theaters of operation.

President Bush goes further to say, the presence of storage sites along with training exercises clearly demonstrates the commitment of the United States to the

two regions.³

Limitations

1. Prepositioning in and of itself has no limitations. This thesis, however focuses on planning considerations for the Army's program of POMCUS. Additionally, the thesis will focus on land based storage as opposed to the water based storage concepts of the Navy and Marines.

2. The POMCUS program exists only in the European theater and REFORGER Exercises are the primary source of test data for evaluation. This study, therefore only considers aspects of one type of geographic theater, climate, and culture making generalizable conclusions difficult.

3. Data from the Center for Army Lessons Learned were derived from after action reports and accounts from individuals and organizations conducting the exercises. Many of these reports discussed the technical aspects and often focused at the lower levels of the organizations involved. Often during the review of literature, problems and successes highlighted at the lower level were analyzed

for implications at the higher levels of operations.

Additionally, many of the findings in the reports required expansion through interviews with people who had worked the programs and by my own experiences.

Delimitations

1. Because POMCUS is a relatively new concept born out of the Berlin Crises of 1961 and the 1967 London Tripartite Agreements, related literature is limited. This thesis will, therefore, look at prepositioning programs of similar scope and size and draw parallels between those programs and the POMCUS programs. The findings of the study of other programs will not be identified separately in the study if the findings are identical to the POMCUS findings. If the finding is particularly important as evidence or if the finding, peculiar only to the other program, has an impact on this study, the finding will be addressed separately.

Significance of the Study

Due largely to the collapse of the Soviet Union and the disappearance of the foreboding threat, the Army

of the 90's will realize a reduction in manpower, a continuation in the shortfall of strategic air and sealift capabilities, and a reduction in forward basing. Without forward basing, the preferred method of providing a timely response to an act of aggression, the defense planners must turn to a balance of airlift, sealift and prepositioning in order to maintain the needed level of strategic mobility. The National Security Strategy of the United States dated August 1991 lists prepositioning as a key strategy in at least three of the Defense Agendas for the 1990's. This study will recommend planning considerations for POMCUS prepositioning based on the European POMCUS program.³

The Army is presently undergoing significant force restructuring and adjustments in strategies to counter the changing world threats to U.S. interests. While prepositioning may not provide the same response or deterrent value as forward basing, the programs demonstrate to allies and potential threats a clear resolve of the United States to protect and defend her national interests. POMCUS, as an example of the largest prepositioning program continues to support Europe and is under consideration for support to the Persian Gulf region. With the years of success in Europe, will POMCUS

prove as viable a program in other theaters? Can POMCUS be tailored to provide the necessary Forward Presence and Forward Deployment capability to rapidly project enough combat power into a theater with a minimum burden on the United States' limited mobility assets? Can the United States be assured unlimited access to POMCUS stocks in an emergency? What factors should planners consider when analyzing a theater for POMCUS prepositioning? Without prudent application of some formal study or model, oversights of key planning considerations into the prepositioning of POMCUS into an overseas theater could result in the inability to rapidly deploy a force large enough to defend vital United States interests of that region. Allies would then lose faith in the commitment of the United States to existing treaties.

Additionally, a less than effective program could unnecessarily cost additional millions in tax payers dollars as well as jeopardize a national interest. This study will consider factors affecting the prepositioning of POMCUS into the European theater and provide planning considerations for the application of POMCUS to future theaters. These considerations will alert planners to potential problem areas before the commitment of resources to the future POMCUS.

ENDNOTES

¹ U.S. TRANSCOM. Airlift Modernization: Toward a More Rapid/Flexible Response (briefing Apr 91), 6.

² National Security Strategy of the United States. (U.S. Government Printing Office, Washington, D.C. August 1991) 25-28.

³ Ibid., 25-28.

⁴ Ibid.

CHAPTER 2

Review of Literature

Introduction

Historic references to prepositioning, in particular POMCUS, center around small articles in logistics publications, passages in after-action reports, studies, and interviews of key officials. No single publication seems to exist that discusses in detail prepositioning and the planning considerations for its use. Additionally, POMCUS is such a new program, material on the subject is very limited in scope and depth.

Most of the available literature concerning POMCUS, essentially individuals' ideas on the advantages and disadvantages of the program, was from the early 1970's to the present. After the first REFORGER exercises in Europe, several initiatives led to an increased emphasis in the program. Everyone seemed to be writing and analyzing the costs, the effectiveness, or some other aspect of the POMCUS concept. Therefore, a majority of the written material comes from theses, papers and studies of other individuals or agencies proposing their views on the

views of the respective agency.

The primary sources for description of the history of the POMCUS concept, the administration, and the present status came from other officer's thesis and personal experience with the organization tasked to administer POMCUS, Combat Equipment Group, Europe. Eight years experience at all levels within the POMCUS affiliated community made the task of evaluating and studying the goals, objectives and lessons learned relatively easy. Several other theses discussing mobility provided a good source for the history.

National Defense Strategy 1991/1992

The most useful source for delineating the broad based objectives of the role of prepositioning and therefore POMCUS, was the NATIONAL DEFENSE STRATEGY 1991/1992. This document was written shortly after the fall of the communist party of the Soviet Union and refocused the national strategies toward the new environment.

The document published in August 1991, highlighted the use of prepositioning heavy equipment (POMCUS) in a support role for both the foreign presence and crises response strategies. It discussed in broad

terms the use of prepositioning as a strategy; why prepositioning POMCUS is considered a viable program to support these two strategies; and which geographic areas will be supported through prepositioning POMCUS?¹

Efficacy of Prepositioning

One of the primary documents used to develop the criteria for evaluation was written by Carl E. Franklin entitled The Efficacy of Prepositioning, dated March 1985. This study considered prepositioning programs as a system to meet the rapid deployment requirements of the United States defense policy. It discussed the maritime prepositioning program as well as land based prepositioning and provided a good base for alternative program considerations. The particular focus or scope was directed at mobility factors and appeared to be biased towards the maritime prepositioning program and the goal to reduce land based prepositioning. Additionally, the study did not have the benefit of knowing that the threat situation was going to change dramatically in 1989. Despite this, the study was comprehensive and many of the considerations and criteria for responsiveness, vulnerability, flexibility, and accessibility were applicable to land based prepositioning.

REFORGER Exercises

The REFORGER Exercises in Europe were designed to test the POMCUS concept. These large scale operations were prime examples of how the POMCUS prepositioning program could project significant combat formations into a theater in a relatively short period of time using a minimum amount of transportation assets. Born out of the London Tripartite Agreement of 1967, REFORGER Exercises tested the POMCUS concept and confirmed the efficacy of the program. The Army's Center for Army Lessons Learned and studies of REFORGER exercises over a ten year period provided a significant quantity of evidence used to substantiate the historically produced POMCUS planning considerations of responsiveness, accessibility, and vulnerability.

Beginning in 1969 with the first REFORGER exercise, goals and objectives were established for all of the exercises. The following are the minimal goals established for REFORGER exercises:

- Provide the participating units training in strategic deployment operations.

- Test theater procedures for receiving dual based forces.
- Increase the proficiency of dual based forces in operating procedures and techniques unique to the European theater and the North Atlantic Treaty Organization (NATO) environment.
- Evaluate the capability of dual based forces to carry out United States Commander in Chief Europe's (USCINCEUR) operational requirements.
- Demonstrate to the NATO allies the US capability to rapidly deploy dual based forces.²

From 1969 to 1991 these exercises have confirmed the immense capability of the US to project massive combat formations into the European theater. POMCUS provided a tremendous storage capability for supplies and equipment and was a significant factor in reducing strategic transportation requirements. However, neither after-action reports, lessons learned nor studies were able to capture all considerations in any one document. In fact the only considerations extensively tested were

responsiveness, flexibility, and accessibility.

Desert Storm

Desert Shield/Storm/Comfort provided a good case study for the analysis of several different prepositioning programs in support of a war zone. POMCUS was one of those programs. While POMCUS equipment was not stored in the immediate theater of operations, it was in closer proximity to the theater than the continental United States. This case study, while interesting, provided only a limited view of POMCUS assets providing out of sector support. While some planners felt this recent support mission testifies to the flexibility of the program, others felt it proved nothing.

The NATO Treaty does not normally allow for the removal of POMCUS from theater to support non-European threats. Factors such as the Conventional Forces Treaty in Europe, the fall of the Berlin Wall, and the reduction of the U.S. Army in Europe all contributed to this one time support relationship. Due to this one time relationship, POMCUS support to Desert Storm had very little relevance to this thesis.

Israeli Prepositioning Program

The study of the Israeli prepositioning program indicated that it was very similar to the Army's POMCUS program. A closely guarded and classified program, the Israeli program could only be analyzed in a superficial manner. The primary sources of information were interviews with General Uzi Leutzer, Military Attache, Israeli Embassy and numerous published accounts of deterrence efforts during the post Yom Kipper War.

The basic prepositioning program in Israel focused on both resupply of basic logistics and the equipping of heavy forces required during mobilization.³

Technically operated similar to the U.S. POMCUS program in Europe, the Israeli prepositioning program provided insight into the planning considerations of responsiveness, vulnerability, cost, and flexibility for application of a different country's POMCUS program to that of the United States' system. The only aspect of the program requiring close scrutiny in the analysis was its purely internal defense approach and application. With the exception of its strictly internal defense mission, all aspects of the program resembled the United States Army program in Europe. Therefore, references to the Israeli program in this study are very limited.

United States Marine Norway Project

The only other prepositioning program closely resembling the Army's POMCUS Program was the Marine sites in Norway. The mission of these storage sites was to reduce the Marines airlift requirements and to reduce the time to deploy a large marine reinforcing force to Allied Forces Northern Command (AFNORTH). This program had similar planning considerations of responsiveness, accessibility, vulnerability, cost and threat.

ENDNOTES

¹ National Security Strategy of the United States. (U.S. Government Printing Office, Washington, D.C. August 1991) 27.

² Ibid., 28. NATO is the coalition of 15 nations in Europe formed for the mutual defense against the Soviet threat. Basic allegiance centered on the intent of an attack on one would be an attack on all. Commander in Chief Europe (CINCEUR) refers to the commander of all forces of all branches of the United States military in Europe.

³ Interview General Uzi Leutzer, Military Attache, Israeli Embassy, November 1991.

CHAPTER 3

Research Methodology

The research was conducted in three phases. Phase 1's objective was the answering of two preliminary questions. With the tremendous changes in the global political, economic and military threat structure, answering these two preliminary questions became very significant. After all, if the need and effectiveness of any strategy in future operations was questionable then planning for the application of that strategy globally became pointless.

In order to develop these considerations, I analyzed the existing Army POMCUS Program, as well as, other prepositioning programs of equal or greater magnitude than the Army POMCUS program. These programs included the European POMCUS Program, the Marine prepositioning program in Norway and the Israeli prepositioning program. I chose these particular programs because they were designed to support the projection of heavier combat formations into a theater. Additionally, they gave insights into different military services', as

well as, different countries' programs. This became very important in the development of criteria to evaluate the Army's POMCUS concept for viability.

Each individual program was analyzed to develop a list of characteristics and expectations. From these characteristics and expectations a set of goals, objectives, limitations, advantages, disadvantages and requirements were derived.

Phase Two of my study was designed to answer the basic research question:

What should be the planning considerations and criteria used when placing POMCUS into a theater of operations?

This phase compared the different programs' goals, objectives, limitations, advantages, disadvantages, and requirements with the results of REFORGER Exercises which are designed to test the POMCUS program. From these results a composite list of planning considerations or questions evolved. These planning considerations could easily be used as a guide by planners of any future POMCUS program into any new theater, such as the Persian Gulf Region.

Conclusions and recommendations for future study were made during Phase Three. The first conclusion will

or should address the viability of the POMCUS concept as a strategic asset in the support of defending the national security in any region. Secondly, the final conclusion should evolve as a list of questions or considerations to be used by a staff officer tasked to place POMCUS into a new area or theater of operation. Finally, several recommendations for future studies based on the conclusions and speculations of this study were made.

CHAPTER 4

The Evolution of POMCUS Planning Considerations

Introduction

The United States portion under the NATO agreement for defense of Europe was ten divisions in ten days. Neither stationing a full ten divisions in Europe nor deploying the divisions was considered viable. The requirement far exceeded the capabilities of the nation's air and sealift. Dependence on POMCUS to bridge vital gaps in the Strategic Mobility Triad became a reality.

Any prepositioning into a theater, perceived as a potential conflict arena, carried both high risk and high benefit potential. As an alternative to costly forward basing, total reliance on expensive airlift, or slow sealift, POMCUS provided a critical link between projecting combat forces and deterring aggression. For twenty-five years POMCUS and the organization administering the program grew in size proportionate to the threat. Division sets were configured and built to mirror the units' structures in the United States. All

sets consisted of all rolling/motorized wheel and tracked vehicles, ground support equipment, tools, shop sets, power generation, communication equipment, and so on. Basically the only things missing from the sets were soldiers and individual equipment carried by the soldiers. These sets therefore consisted of thousands of pieces of equipment and cost billions of dollars.

From a beginning with two division sets, POMCUS expanded to an equivalent six division set. Three sites in one country soon grew to fifteen sites in four countries. While the collapse of the Soviet Union lowered the requirements of the total number of division sets in support of NATO, the relative size and structure of the present day POMCUS remained constant due to the increased size of each set.

To assess the capability of POMCUS as one of the critical legs of the mobility strategy, it must be evaluated against a set of elements deemed critical to the defense strategy. As outlined in the Defense Strategy for the 1990's, the defense program would be measured by deterrence, stability, responsiveness, flexibility, accessibility, and vulnerability. Additionally, the implied measurements of the operating organization, cost and threat were added after study of the literature. This chapter will explore the existing Army POMCUS program,

discuss it's effectiveness in each of the areas, and develop a list of "POMCUS Imperatives". These imperatives will be used in chapter five to assess the lessons learned from REFORGERS and other exercises and tests.

Threat

Prepositioning requires the ability to anticipate where a conflict is likely to occur. What are the threat capabilities to be countered? Is the use of military power one of the national power options to counter the threat capability? Answering these questions is no easy task given today's changing global organization and struggling political/economic power structure. One generic theory, however has surfaced throughout history. The next conflict most likely to threaten any country's national interest will be in resource rich areas or in areas with continued and sustained armed conflicts between growing and expanding military forces.¹ Figure 4-1 depicts these areas of interest.

The Army European POMCUS program, the Marine Norway prepositioning program, and Israeli Defense Force prepositioning depot program all had similar goals and objectives with regards to threat considerations.

The first of these considerations was the relative size and capabilities of the threat forces. In Europe heavy conventional and nuclear forces were arrayed across a wide front with a clear capability to invade and control Europe. Highly mobile and lethal weapon systems throughout the threat forces created the need for equally mobile and lethal forces to counter the threat.

Stationing of such forces was not economically feasible and the ability to lift the heavy force requirement exceeded capabilities. Therefore, POMCUS filled some of the deficit combat power requirement.

In Israel, at the conclusion of the Yom Kipper War, the threat array on multiple borders exceeded the

capabilities of a smaller Israeli standing armed force. The threat from Egypt and Syria was heavy, lethal and highly mobile. Early, the Israelis realized, their own inability to maintain a standing force capable to repel and or defeat the threat. Therefore, their prepositioning program was designed to counter the threat capabilities and to bridge the shortfall in the Israeli requirements versus capabilities.

On the other hand, if a threat's capabilities limited its aggression to small light forces, rapid reaction forces of the threatened nations were usually used to counter the aggression. Evidence of this could be seen in the development and use of the rapid reaction forces by most industrial countries for smaller contingency operations world-wide. POMCUS would not be considered for such operations because the required force to counter the aggression was smaller and could be lifted or transported into the theater in a very short period, using available resources. Recent examples of Grenada and the Falklan Islands attest to this concept.

In addition to the size and capabilities of the threat, the likelihood of the threat to commit acts of aggression was a prime consideration. In Europe, the Soviet Union had a clear policy of the expansion of communism and exercised this policy across the world.

Likewise, the countries surrounding Israel openly contested Israel's rights in the region. In many cases, border wars provided clear examples of the threat's intent on aggression.

Therefore, it can be deduced that the threat in Europe was a large, heavy force capable of lethality and speed of attack. It can also be deduced that the Army's POMCUS program was designed as one of the strategic initiatives in support of the national strategy of deterrence of aggression in that region.

In summary of the threat discussion, two prime considerations evolved for inclusion in the "POMCUS Imperatives":

1. Threat forces arrayed were mobile, lethal, and heavy combat forces.

2. Threat forces were anticipated to use their capabilities in acts of aggression.

3. The size of the threat force compared to the size of the forward stationed forces influenced the size of the POMCUS stockage levels as well as the number of sets stored.

Deterrence

The fall of the Berlin Wall and the subsequent collapse of the Soviet Union ended one of the United States' longest wars -- The Cold War. Historians and leaders alike list many factors leading to this world altering series of events. The capability to deploy large combat formations in support of the North Atlantic Treaty Organization (NATO) was one of the contributing factors cited by many of the commanders of the major commands in Europe. While the deterrent effects of POMCUS cannot be measured, it can be assumed that the program contributed to the overall deterrence program of the United States.

Whether POMCUS supported deterrence or not was dependent on the views of the potential aggressor and must be considered in terms of the potential enemy's perception.²

An aggressor must view the capabilities of the program's potential as a threat to his own objectives and capabilities.³ In Europe the steady build up of stored division sets in the POMCUS fleet, the growth of the deployed forces, the increase in the strength of the NATO Alliance, and the demonstrated ability to deploy large combat formations into theater placed a tremendous burden on the Soviet Union's economic capability to maintain a

large standing armed force.

For twenty years the threat in Europe saw the United States' and the other NATO members' determination to deter aggression. Annual REFORGER, Flintlock, and other exercises showed, on a continuing basis, the ability to deploy heavy combat forces in a relatively short period of time. The POMCUS program aggressively demonstrated a commitment to fight against any aggression and clearly provided some deterrent effects.

With the fall of the Soviet Union, the deterrent effect of POMCUS declined with the reduced threat. As stated in the earlier paragraphs, the perception of the threat is paramount in the deterrent effect of POMCUS. In Europe this deterrent requirement, although lessened is still needed. The instability of the region due to the collapse of the Soviet Union supports the need for continued POMCUS.

In summary to the discussion on the deterrence effects of POMCUS, two major considerations developed for inclusion into the "POMCUS Imperatives".

1. The placement of POMCUS into theater was perceived by the Soviets as a threat to their objectives and capabilities.
2. There was a program to demonstrate through

exercises the capabilities and commitment of the program to deter aggression.

Accessibility

Accessibility was one of the key concerns of all prepositioning programs studied and the one aspect that required a great amount of political and diplomatic energy. Since the Israeli program was designed strictly for internal defense operations, accessibility (other than geographic/barrier considerations) posed little or no concern for planners.⁴ The U.S. programs, however demonstrated a huge reliance on the host nation for the success of the POMCUS programs in Europe.

To understand and develop the accessibility issues, a step by step approach was used. The initial placement of POMCUS into the host country was studied first. Later, aspects related to the caretaker operations and training exercises during the deterrence were reviewed. Finally, the requirements for accessibility during conflict were addressed.

In 1966 negotiations began between the United States, Great Britain, and Germany to discuss ways to reduce the climbing balance of payments deficit.⁵ The Dual Base Concept appeased Congressional concerns of

economic pressures and the failing faith in the NATO. As a result, withdrawal of forces from Europe began and the POMCUS concept with Dual Based Forces and annual exercises was created.

POMCUS was designed as the prepositioning of stockpiles of supplies and equipment configured and uploaded in a ready for use package. This tailoring allowed for rapid deployment of troop strength via air and the marrying of the soldiers with the equipment prepositioned. Therefore, prepositioning reduced the immediate strategic lift requirements.

POMCUS, additionally, reduced the period of time required to configure large formations for combat. No longer was there a requirement to off load ships and reassemble vehicles for movement. No longer was there a requirement to take bulk loaded equipment and transload onto vehicles. Communication equipment, tool sets, oils/lubricants, repair parts, manuals, protective clothing, rations, etc were already uploaded and configured for combat.

Since the Berlin Crises of 1961 and the London Tripartite Agreements of 1967, POMCUS has been a key program in the National Defense Strategy for immediate and rapid projection of large combat formations to Europe.

Maintaining a forward presence will continue to

be a strong and viable strategic program for defense.

Our presence can deter aggression, preserve regional balances, deflect arms races and prevent the power vacuums that invite conflict. While our forward deployments will be reduced in the future, the prudent forward basing of forces and the prepositioning of equipment reduce the burden of projecting power from the continental United States.

In Europe a clear and present dangerous threat facilitated negotiations for POMCUS placement into the theater. Diplomatic and political agreements were made concerning a wide range of POMCUS related issues. In Germany and the Benelux countries countless agreements were made outlining actions for access, security, personnel, locations, funding, environment, etc.. Central to the European theme, however, was a desire on the part of the NATO countries to accept the United States presence in the region.

Once acceptance of the United States (U.S.) presence was resolved, issues centered around caretaker requirements and the training exercises in Europe. Agreements between the host nation, NATO, and the U.S. mandated annual exercises to demonstrate capabilities, distribution of costs and making available the host nation infrastructure for support. These agreements not only guaranteed access to the required sea/airports, transportation centers, facilities and host nation support

for security, but also mandated training exercises to practice the agreements.

Finally, accessibility during conflict posed little or no concern in Europe. In Europe the agreements for access were tied closely to the NATO readiness levels and access by U.S. forces posed little or no concern.

In summary several, accessibility planning considerations evolved:

1. Stocks were available in both peace and agreements existed to ensure unconstrained access by U.S. forces during conflict.

2. Host nation infrastructure enhanced and did not hamper accessibility.

3. Changes in regional political structure did not change accessibility agreements.

Stability

Stability for POMCUS can only be addressed from its social and political considerations. The consideration for the use of any form of military power as a deterrent already carries with it the implication of instability in a region. Stability, for POMCUS planners,

therefore, can only address side benefits or ramifications of the POMCUS storage sites upon the local populations.

In Europe the initial responses to POMCUS storage sites ranged from open acceptance to open protest. All of which had little or no effect on the accomplishment of the POMCUS mission. Over time a reliance on the storage sites as an employer grew. This reliance grew to the point, that in 1989 open protests at the closure of employment locations over-shadowed any opposition to the sites.

Stability impacts can be addressed with regards to security. The local population provides for over 90% of the workforce at a typical storage site. If this workforce is considered arbitrary with regards to the United States presence, sabotage and pilferage are likely to increase.

Regional impacts centered on balance of power. News reports, magazine articles, and personal beliefs of leaders cited the United States presence as a de-stabilizing factor in Europe, leading to escalation and an ultimate conflict with the Soviet Union. Others said that it was the United States presence that brought an end to the Berlin Wall and the instability. All in all, stability factors played little in the planning and more in the execution of the POMCUS program.

In summary stability factors produced one

planning considerations:

POMCUS storage sites and POMCUS stocks had a social and economic impact on local populations. However, protests, employee strife, political acceptance all had a small or negligible impact as long as POMCUS was needed to counter a clear and present threat.

Vulnerability

Issues of vulnerability for POMCUS centered around pilferage, sabotage, terrorism, and conventional attack. Research was of a generic nature and did not include a detailed study of threat situation, intelligence estimates, or individual site Vulnerability Assessments.

In Europe, the security forces tasked to protect POMCUS and like facilities were host nation military or civilian agencies with small contingencies of U.S. military forces to provide management, technical and limited security services. However, a storage site was usually at the mercy of host nation assets for security during peacetime operations. A typical large site may experience four to five incidents in a two year period. Protests, breaking and entering, thefts, terrorists, and employee pilferage were the primary types of security problems encountered at a typical storage

site. All of these were handled quickly and effectively by the local police forces or the host nation territorial forces. With the exception of heightened security awareness and measures, little or no effects on the operations of the site were experienced.

Rapid projection of combat power to a storage site and passive security measures provided the foundation for countering attacks from conventional forces or more commonly termed a Level III threat. In Europe, deploying forces were trained during REFORGERS at providing site/area security for follow on forces to counter any Level III attack (conventional attack above capabilities of site and local police forces). If accessibility to deploying forces was delayed then the security of the site was compromised. Even with the passive measures of physical security, counter surveillance, camouflage, and operational security, vulnerability from air and chemicals was considered by intelligence experts as a major weakness of the program.

If attacks or sabotage from operatives or terrorists did occur, the storage concept itself limited collateral damage to stored equipment. The lack of flammables in or near the equipment and the dispersion of warehouses contributed the most to this factor.

In summary to the issue of vulnerability, two

considerations were added to the "POMCUS Imperative" list:

1. Early deployment and a rapid projection of forces was essential to reducing vulnerability to Level III threats.

2. Host nation provided and ensured local security through civil and military forces.

Flexibility

With the collapse of some nations and the birth of others, uncertainty in the stability of the world makes the flexibility of available military resources essential. While Soviet aggression against the free world may be diminished, the Soviet trained and equipped allies continue to flex their muscles and cause regional unrest. This phenomena heightens the requirement for a global capability on short notice. A declining defense dollar, however, forces the maximum returns on each dollar spent and will not allow for the placing of troops and equipment into every area of interest.

Our worldwide commitment and global strategy demands the capability to shift equipment between theaters in a timely manner, since funding levels will not support total repositioning of duplicate

equipment sets in all locations where potential conflict threatens US interests.

The Conventional Forces Europe Treaty (CFE)⁸; a reduction in the manning of the U.S. Armed Forces; and a reduction in overseas stationed forces may limit, in the future, the availability of multiple prepositioned sets in support of more than one theater. Presently, however, the flexibility issue focuses on one POMCUS in one theater supporting not only the designated theater, but also out of sector theaters.

A study of the process to move POMCUS assets is necessary to understand POMCUS flexibility. The authority to shift stocks is retained at the Department of the Army level.

Every year there is a review and subsequent publishing of a document designed to structure the POMCUS sets in the same structure as the stateside counterparts. This POMCUS Authorization Document (PAD) theoretically causes a mirror image between the stateside organizational set of equipment and the POMCUS organizational set stored. This document is the catalyst that causes changes within the POMCUS stocks. Equipment is ordered, relocated, turned-in, reconfigured, or shifted based on funds and this document. It takes in the excess of a year to transport, maintain, and configure the thousands of

pieces of equipment moving to new locations. So, in approximately one year the entire structure of POMCUS could theoretically change based on threat, force structure, or funds to name a few. Therefore, even though a tremendous amount of work and assets are required, flexibility of POMCUS within theater is relatively good.

The movement of assets outside of theater, however, carries two additional stipulations. First, the move of POMCUS material out of theater requires permission from the NATO Organization.

Even in NATO, withdrawal has not been acceptable, as was in the case in 1973 when the US proposed to replenish Israeli losses from POMCUS during the '73 Mideast War.

It is easy to understand the rationale behind this treaty requirement. With the power and threats of the Soviet Union, NATO feared the lowering of the defensive posture in Europe and enforced the treaty stipulations.

During Desert Storm however, support to the war effort did come from POMCUS Europe. Obviously the threat of the Soviet Union was lower and NATO did not feel threatened with the removal of large amounts of defense material.

Secondly, POMCUS equipment moved from the

European theater to support out of theater missions, such as Desert Storm renewed the age old problem of limited strategic lift requirements versus capabilities. As an example, literally hundreds of aircraft and ships were moving not only the deploying forces but also the POMCUS equipment. Often during the operation, weeks would pass before transportation assets were again available to move the POMCUS equipment from theater to the Desert Storm theater. While the surge capabilities of the transportation community was tested and proven very capable, the initial goal of limiting transportation requirements for POMCUS assets was defeated.

In summary, flexibility of POMCUS within theater was and always will be planned and considered, however, flexibility of POMCUS outside of theater could not be planned. Therefore, two considerations for the "POMCUS Imperatives" list emerged:

1. Flexibility to shift resources within POMCUS was planned and proved essential for the organization to keep pace with the structure changes caused by threat capability changes.

2. Flexibility to shift resources outside the designated theater carried significant political and strategic implications. Due to these treaty restrictions

flexibility for outside theater could not be planned.

Responsiveness

The traditional goals and role of the United States and allies are defensive in nature and do not attempt to gain any land or territory. Due to this policy, our U.S. Armed Forces, while maintaining an offensive capability, are arrayed and designed defensively to counter threats of aggression against national interests and security. Because of this, advantage lies with the attacker. The attacker can pick time and location to maximize his own capabilities and exploit our weaknesses. To compensate, the United States must be able to deploy quickly and with adequate forces to counter any threat worldwide. This places significant pressures on sealift, airlift and prepositioning. The ability of all three to respond quickly and effectively forms a large portion of the defense strategy.

In order to study the responsiveness of POMCUS the complete time from initial warning through initial employment must be considered. This timeline includes warning time and deployment time. The time required to receive the force and to configure the force for combat are both subsets of the deployment time.

Warning time for POMCUS has always been a controversial topic. The success of POMCUS inherently relies on a longer warning response time, the time between intelligence indicators and the commitment of forces. Some experts state that warning time begins with the first signs of threat activity and ends with an action response. Much of the military leadership feels the time between intelligence indicators and the critical provocative event will always be used to exercise other elements of national power to resolve the situation. Fig 4-2 through Fig 4-5 illustrate a model and calculations of warning response times for the military in historical examples.

Warning/Decision/Action Timeline

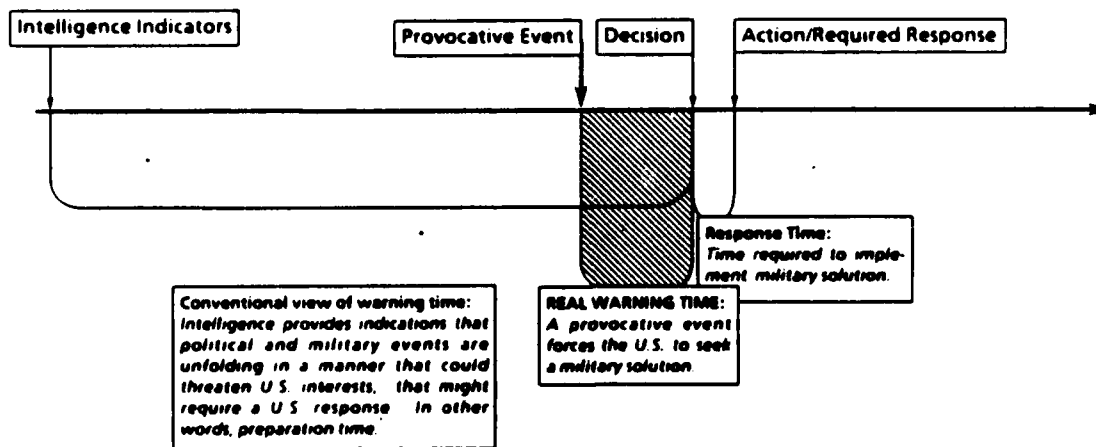


Fig 4-2 Warning/Decision/Action Timeline

Korean War
1950 - 1953

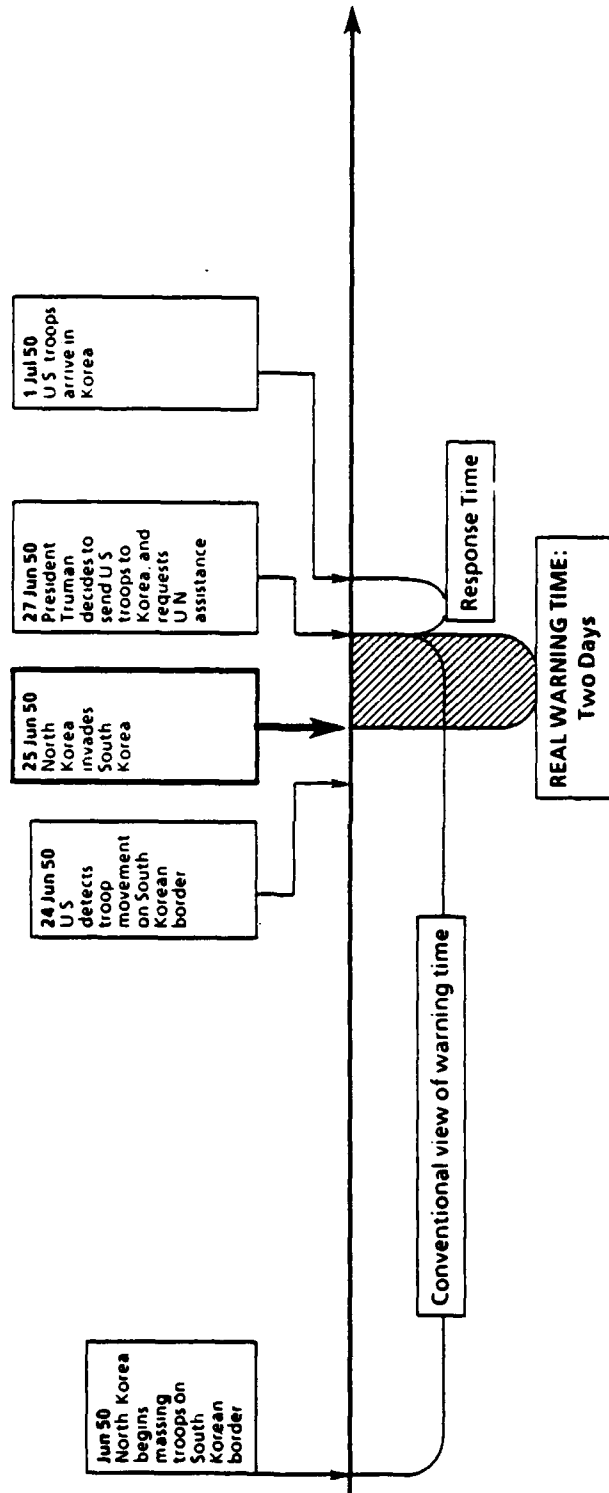


Fig 4-3 Korean War Timeline

1973 Yom Kippur War - Israel

14 October 1973

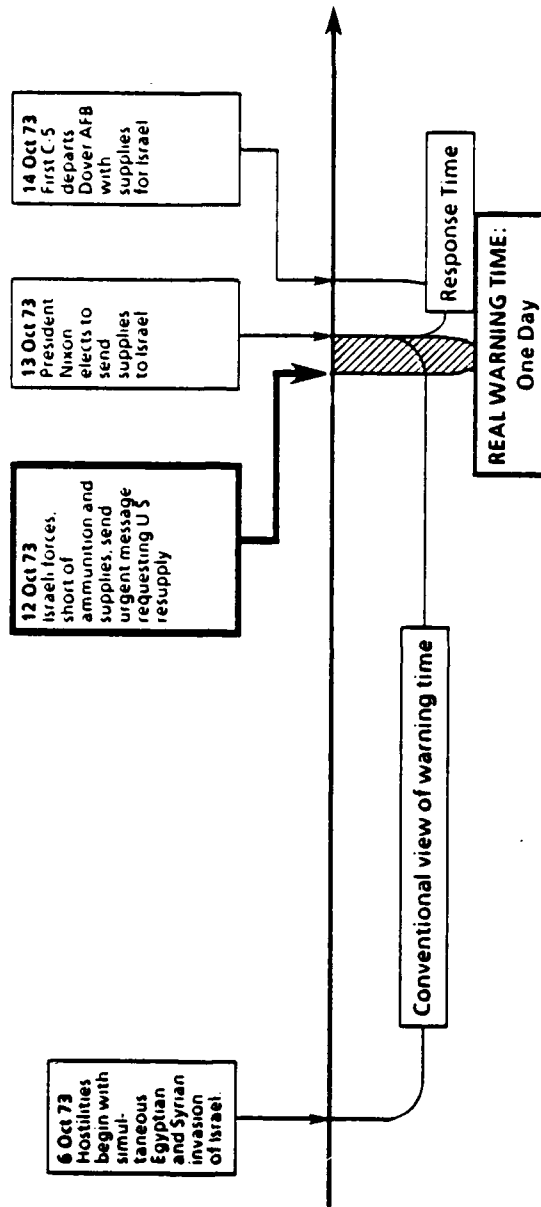
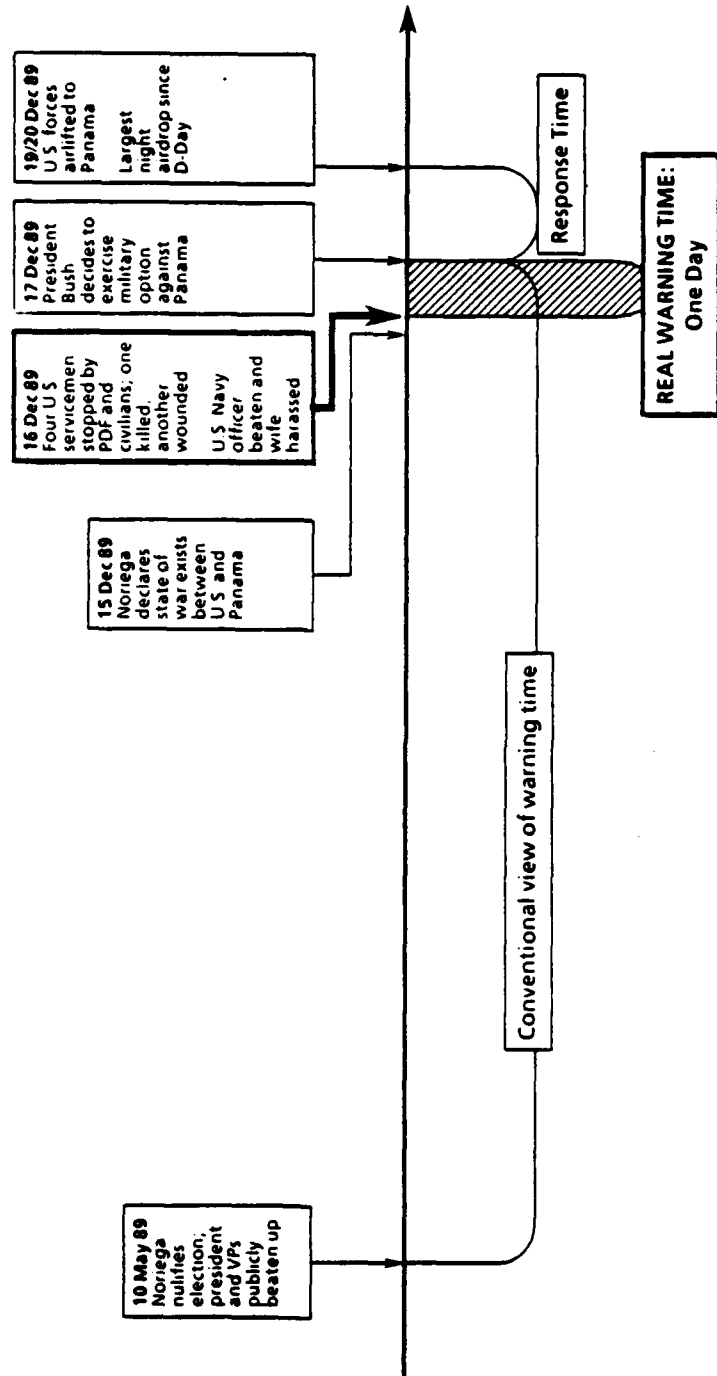


Fig 4-4 1973 Yom Kippur War - Israel Timeline

Operation "JUST CAUSE" - Panama

20 December 1989



Operation "Just Cause" - Panama Timeline

Therefore the warning response time for the storage sites is a critical security concern as they pose such an easy and vulnerable target. POMCUS requires a longer response time due to vulnerability factors discussed earlier. Without adequate warning response time, a potential threat has the opportunity to render the POMCUS sets ineffective through denial of access or destruction of equipment before deploying forces can respond.

Additionally, the POMCUS concept provides adequate response to anticipate threats. Combat forces can be transported to sites, equipped and moved to areas of employment in 4-7 days as opposed to 2-3 weeks using a combination of air and sea lift alone.¹⁰

With the collapse of the Warsaw Pact and the Soviet Union, planners feel warning time for reinforcement actions in Europe has significantly increased. This increase in warning time, therefore forces planners to reduce the number of division sets stored in POMCUS. Defense strategists surmise the increased warning time provides sufficient buffer between intelligence information and action response to deploy the reduced quantity of division sets from the United States.

However, when the force requirement was ten divisions in ten days, airlift and sealift could not meet

the requirement alone. POMCUS was the third leg of the triangle to offset the shortfall of air and sealift.

Once a unit is deployed, responsiveness is measured by that unit's ability to assemble for combat. One factor of POMCUS that assisted in this responsiveness was the upload and configuration program. Unlike convention storage programs of like items stored together, POMCUS stores unit sets fully uploaded, ready for combat. A unit simply places batteries and fuel into the equipment and equipment combat readiness (minus ammunition) is achieved.

Over the years, the time required to issue equipment to units from a POMCUS site and the subsequent time for units to configure for combat, shortened considerably.¹¹ A typical combat battalion went from 96-120 hours to 24-48 hours. Actions such as upload of shop sets, radios, camouflage sets, tools, fuel, food, etc. on the POMCUS sets can be directly attributed to the reduction. The largest portion of savings in responsiveness was not realized in the issue times on the POMCUS site, but was realized in the reduction of the marshalling area requirements. Basically speaking, a unit was issued its set of equipment and was combat ready in a matter of hours instead of days.

In summary two considerations for responsiveness

need to be added to the "POMCUS Imperatives" list:

1. POMCUS was the single most effective factor at bridging the shortfalls in air and sealift requirements for the ten divisions in ten days for the defense of NATO.

2. POMCUS programs such as up-load configuration, storage configurations, issue procedures, etc. were critical in increasing the responsiveness of POMCUS to units arriving in country.

Cost

Cost savings of POMCUS over stationing forces or pure air and sealift forces centers on the following factors: facilities, life support requirements, strategic lift assets, consumption rates, force structure issues, and exercise costs. All of which still showed POMCUS as a less expensive means, short of stationing forces, to project heavy combat forces quickly into a potential threat area.

The most cost effective and timely alternative to increased peacetime stationing in Europe is POMCUS... in addition to the equipment movement problems which POMCUS solves, we have critical force structure shortages.... If the costs of additional airlift are considered, the cost advantage of the Host Nation Support solution [POMCUS] over the United States force₁ structure in Europe becomes greater than 200-to-1.¹²

Ideally the threat would allow plenty of time for the slower but less expensive sealift to transport troops and equipment from the continental United States to the threatened area. Wars such as Korea, Yom Kippur, Panama, and Falklan illustrate a different reality. These realities tell planners the enemy will strike quickly and not allow for a long and slow build up process.

Additionally, the national budget will not allow for the expensive aircraft required to lift the entire force into a threatened area in a very short period of time. Therefore, a compromise is inevitable. A balance between air, sea, and prepositioning must be developed and refined. Fig 4-6 illustrates this relationship between the designated strategy for defense and period of the threat.¹³

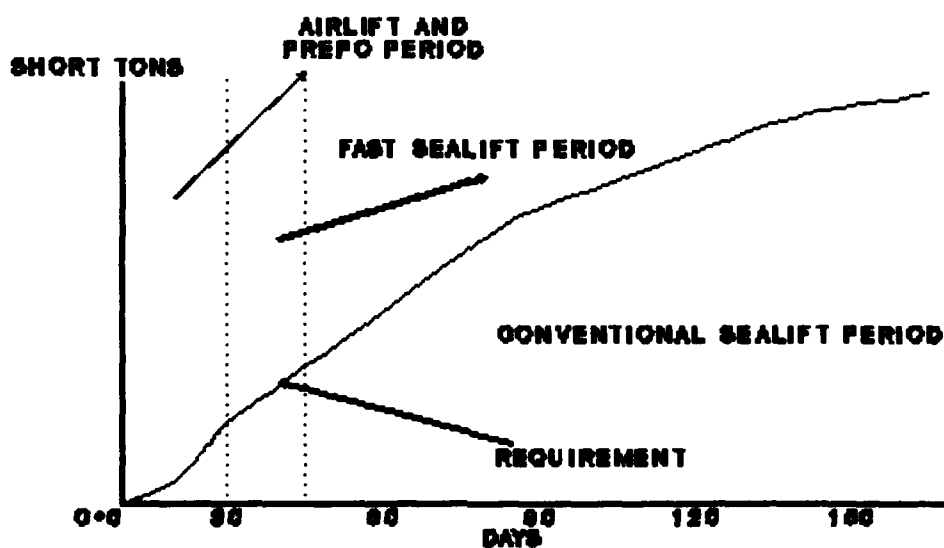


Fig 4-6 DEPLOYMENT STRATEGY

Both the high cost of maintaining duplicate sets of equipment in POMCUS, as well as, in the Continental United States based forces and the extensive facilities make POMCUS a very expensive undertaking. The following, however demonstrates the savings that can be achieved with POMCUS compared to stationing forces in Europe.

COMPARATIVE ANNUAL COSTS REFORGER		
	DUAL BASE	EUROPE BASE
	\$(millions)	\$(millions)
WARTIME STRENGTHS soldiers	31,367	31,367
COSTS TO MAINTAIN \$	68.90	93.20
ROTATION COSTS \$	0.00	24.80
EXERCISE COSTS \$	5.80	0.00
EXERCISE COSTS (AIRLIFT)\$	7.60	0.00
MAINT. OF PREPO \$	6.40	0.00
AMORTIZATION OF EQUIP \$	8.70	0.00
AMORTIZATION OF WRHSE \$	23.80	0.00
SUBTOTAL \$	118.40	118.00
FOREIGN EXCHANGE SAVINGS \$	75.90	0.00

The significance of the comparison clearly shows, with dollar savings alone the concept of POMCUS and Dual Basing realizes a foreign exchange savings of 75.9 million dollars. 14

While many congressional planners focused on strictly the fiscal savings of POMCUS, many military planners were concerned with the high cost/impacts POMCUS had on training the stateside based POMCUS and non-POMCUS forces. Many stateside stationed units, particularly the Reserve/National Guard units lacked the modern equipment necessary to deploy and fight. This was due to the

extended period required to modernize both the POMCUS set and the stateside sets of equipment in the POMCUS divisions. Fielding plans for modern equipment took years and the lower priority units were forced to train to fight on obsolete equipment. This rendered them ineffective or at least suspect for combat readiness.

The requirement for multiple sets of equipment under the Dual Base Concept caused initial concerns. The Reagan years of massive military buildup, however created a large inventory and recent arguments for or against POMCUS seemed to place less emphasis on this factor than in previous years.

In summary, it is very easy to see cost planning considerations concerning POMCUS:

1. POMCUS was formed initially to counter the high cost of stationing units permanently on foreign soil.
2. POMCUS was considered more economically feasible than high cost force structure corrections, such as building ships and aircraft.
3. The requirement for two sets of equipment under the Dual Base Concept caused initial problems with modernizing the stateside forces. The slower the fielding of the two sets required by POMCUS designated units the greater the impact on the training readiness of the

non-POMCUS units.

Developing the Operating Organization

In addition to the previously mentioned host nation organizations there exist organizations to operate the POMCUS program on a daily basis. Many of these associated organizations are both civilian and military. The United States Army organization tasked to administer, lead, and manage the POMCUS program is called Combat Equipment Group, Europe. Headquartered in Mannheim, Germany the organization is composed of 15 companies operating 21 sites in four different countries. The workforce is composed of dozens of nationalities speaking 20+ different languages. The sites are located in rural as well as industrial areas of the four countries. All workforces are composed of approximately 90% civilian with 10% United States Military.

The unique environment of Europe lends to the success of the POMCUS program. The industrialized and developed infrastructure enhances required sustainment bases, transportation networks, communications networks, and a technically receptive population pool for sources of labor. All of which are critical to the success of

POMCUS.

Skills required on any POMCUS site include clerical, administrative, maintenance, storage, supply, trouble shooting/diagnostic, quality control/assurance, management, computer, and communications. The industrial nature of the countries involved supports the feasibility of finding a viable workforce with the necessary skills. This is only if the United States presence is accepted in the region and the employment is viewed as long term.

Transportation and communication networks are critical due to the geographic dispersion. Automation links and voice communication links trigger transportation requirements with the movement of literally thousand of pieces of equipment throughout the theater. Most of which is moved by military or commercial carriers.

Port facilities and airport facilities all enhance the capability to receive the deploying force in times of hostilities. Europe support to the POMCUS mission includes numerous ports as well as numerous airports with heavy lift and reception capabilities. Additionally, the rail system can move equipment and supplies from ports to the sites and out again as necessary.

In summary, the considerations of infrastructure

and administrative organization were added to the "POMCUS Imperatives":

The required resources of labor, transportation, ports, airports, communication networks and other infrastructure systems were required for the support of the European POMCUS program.

REFORGERs, The Tests of Success

REFORGERs were designed to be the test of the POMCUS concept and will be discussed in detail in Chapter 5 during the evaluation phase.

Conclusion

As an alternative to forward basing of units, a total reliance on expensive airlift, or slower sealift, the POMCUS concept provided a critical link between projecting combat forces and deterring aggression. Although prepositioning carries a high risk due to vulnerability and accessibility, planning considerations properly studied and applied made the European POMCUS program a viable program. With the exception of cost, deterrence, stability, and threat, tests/exercises provided a good

foundation of evidence to attest to the viability of the
POMCUS concept.

ENDNOTES

1 Franklin, Carl E., The Efficacy of Prepositioning (Mar 1985), 15.

2 Ibid., 28.

3 Ibid.

4 Interview, GEN Uzi Leutzer, Israeli Military Attache, Israeli Embassy, November 1991.

5 Broadway, Gary L., Dual Based Concept in Perspective (1974), 5. In 1965-66 Congress felt the United States was bearing too much of the defense burden as compared to the other allies in Europe. The tripartite agreements of 1967 were direct attempts to balance the payments deficit between England, Germany and the United States.

6 National Security Strategy of the United States,

27.

7 Franklin, 34.

8 Conventional Forces Europe treaty refers to the treaty between the United States and the Soviet Union to limit specified types of equipment and the numbers of forces to be stationed within Europe. Even with the fall of the Soviet Union, the United States has decided to honor the numbers specified in the agreement. The agreement specifies inspections and movement restrictions of the primary combat equipment within the theater.

9 Congressionally Mandated Mobility Study, 28.

10 Franklin, 29.

11 Combat configuration refers to those actions required to bring a unit to a fully mission capable status. Actions such as upload radios, maintenance sets, camouflage nets, fuel, food, etc. are examples of such actions. These actions were normally performed in areas off of the POMCUS sites at Marshalling Areas.

12 Korb, Lawrence J., "Innovations to Support Our NATO Commitment," Defense 82, 3.

13 U.S. Transportation Command, "Airlift Modernization: Toward a More Rapid/Flexible Response, (Briefing Apr 1991), 7.

14 Broadway, Gary L., LTC, USAF. Dual Base Concept
in
Perspective, (Air War College, Maxwell Airforce Base; Apr
75, 7-8. Foreign exchange savings were based on the
strength comparisons between the dollar and the Deutsche
Mark. Data shown is from base year 1975 and foreign
exchange savings of today are probably worse based on the
reversal of strengths of the two currencies.

CHAPTER 5

POMCUS Capabilities/Limitations Tested

Introduction

Heavy equipment prepositioning decisions addressed considerations of force flexibility, vulnerability, accessibility, responsiveness, and cost effectiveness of POMCUS over the cost of adding strategic air and sealift assets. The discussion in Chapter 4 clearly outlined the viability of the POMCUS concept to fill shortfalls in the strategic force projection and reinforcement of Europe.

The lessons learned from the Berlin Crisis of 1961 and the first attempt to reinforce Europe, Operation Big Lift of 1963 earmarked the need for planning and testing the rapid reinforcement of Europe and the shortfall of strategic lift. As the POMCUS fleet grew from 2 division sets to 6 division sets, the need for more comprehensive and larger scale training exercises also grew. These validation tests were called **Return of Forces to Germany** (REFORGER).

These REFORGER Exercises along with support to Desert Storm and the United States Army Europe Backfill Program will assist in validating the considerations developed in Chapter 4.

REFORGER Exercises

Any conclusions drawn from REFORGER operations and their impact on the POMCUS considerations developed in Chapter 4 must be derived from an understanding of the program's history, goals/objectives, and accomplishments.

The REFORGER Exercises were strategic mobility exercises

...executed under the 1967 London Tripartite Agreement among the United States of America, the United Kingdom, and West Germany. The agreement allowed the United States 24th Infantry Division (Mechanized), located in Germany to restation its division base and two brigades in the United States, while leaving one brigade in place. The agreement further stipulated that the 24th Infantry Division (Mechanized) would return the division(-) annually, draw POMCUS, link up with the forward stationed brigade, and then participate in a European field training exercise. In 1990 during REFORGER II, the 24th ID(M) was replaced by the 1st ID(m) making 1st ID(m) the REFORGER designated division. As POMCUS sets were increased, the Annual REFORGER strategic deployment expanded to include different [Continental United States] CONUS divisions. Continued refinement of the US support to NATO necessitated the addition of non-divisional combat, combat support, and combat service support units. Additionally, Airborne Divisions (AASLT), added a new dimension to the original REFORGER concept. Subsequently, REFORGERs have added numerous innovations including deployment of

Reserve Component units and no notice Emergency
Deployment Readiness Exercises (EDRE).¹

REFORGER is the one vehicle through which the skills required to plan and execute large scale joint strategic deployments and ground operations can be developed, tested and refined.² In order to plan, test, and refine any program, a set of goals and objectives are required to establish the basis of a standard or measure of success. The goals developed for REFORGER exercises were listed in Chapter 2, Review of Literature and addressed key areas of Accessibility, Flexibility (in theater), and Responsiveness. While the focus of these original goals changed very little, the exercises grew in scope and magnitude with each succeeding year until the fall of the Berlin Wall in 1989. Exercises continue but seem to be smaller in size and magnitude.

In addition to goals, a set of procedures or phases must be devised to control such a large and complex mission. The phases of the deployment affecting POMCUS can be divided into the following:

1. Deployment phase, the period of time a unit leaves departure points in the United States and arrives at destination points in Europe.

2. Reception Phase, the period of time a unit moves from arrival points to POMCUS sites, marshalling areas, or other locations to prepare for tactical

employment.

The phases developed and exercised continuously are depicted in Fig 5-1.

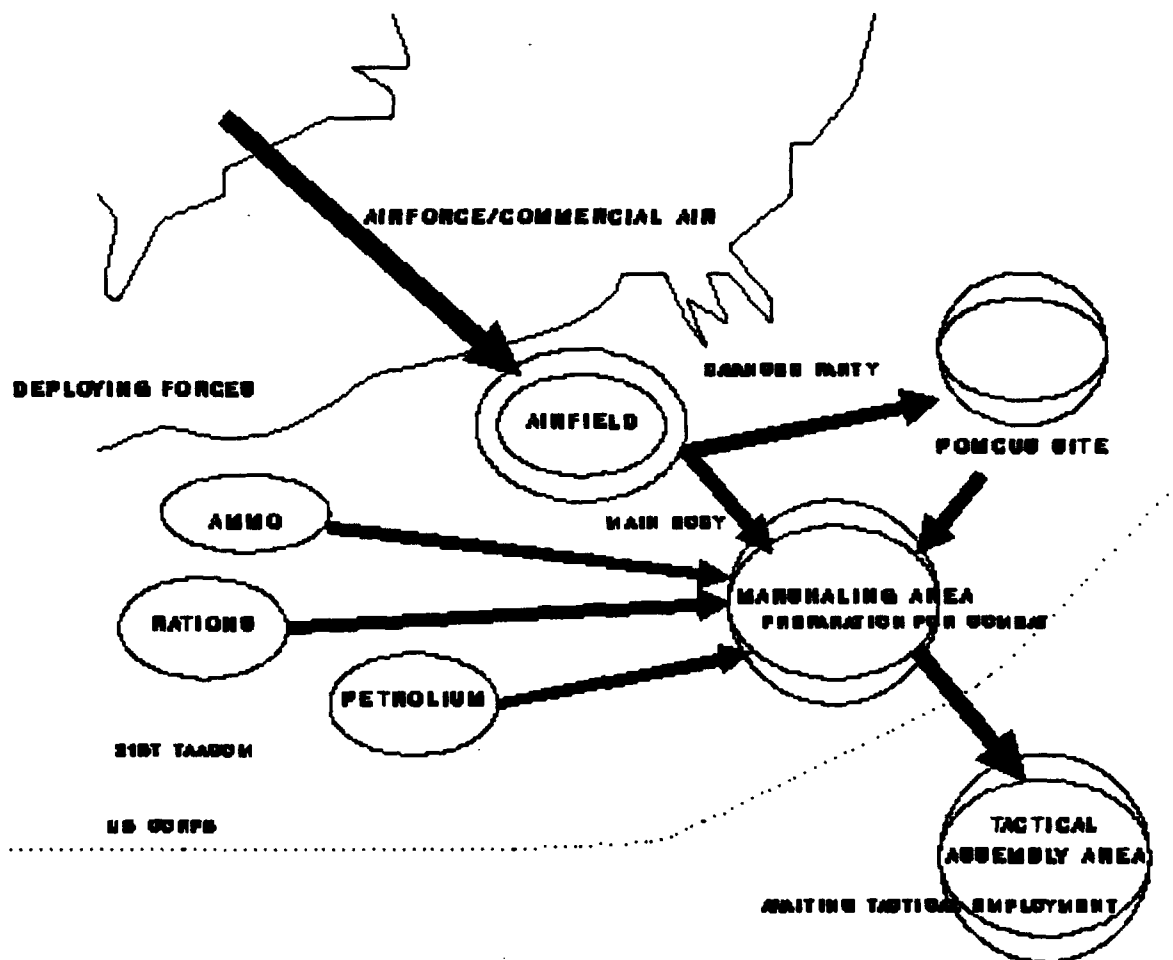


Figure 5-1 Deployment/Reception Model

These phases provide the framework for the analysis of REFORGERS and serve to validate the planning considerations supporting POMCUS accessibility, flexibility, and responsiveness.

While all REFORGER exercises had a similar set of goals, REFORGER 79 clearly marked the turning point towards a larger and more complex joint and combined operation. REFORGER 1979 appeared to be one of the exercises with a set of goals demanding one of the greatest levels of expectations and results. Of note in the long list of accomplishments were the improvements in transportation capabilities, twenty four operations at POMCUS sites, a standard 96 hours for marshalling, and POMCUS site upload programs. All of which had not existed or did not perform well in past REFORGERs.

Additionally, REFORGER 79 was conducted during one of the most severe winters in many years, both in CONUS and Europe. The weather challenged transportation and reception systems to the maximum and provided the means to evaluate war plans, training, and readiness under winter conditions.³ It therefore provided a good case for the REFORGER study.

Some of the goals accomplished during REFORGER 79 were as follows:

1. Exercised strategic deployment planning and capabilities by land, sea, and air.
2. Exercised the maximum number of headquarters and units, to include U.S. Reserve/National Guard units,

programmed to deploy to Europe in support of war plans.

3. Demonstrated the resolve to defend Europe and honor NATO commitment.

4. Exercised U.S. and NATO transportation systems to maximum extent.

5. Exercised the Belgium, The Netherlands, and Luxembourg (BENELUX) line of communication agreements in a variety of realistic scenarios.

6. Exercised POMCUS issue capabilities and techniques.

7. Exercised POMCUS equipment under winter conditions.

8. Optimized host nation support throughout the exercise.

9. Promoted allied and NATO understanding of REFORGER in supporting the defense of Europe.

10. Employed Military Airlift Command surge of aircraft during the deployment phase of the exercise.⁴

During the Deployment Phase, 139 aircraft and four ships transported 14,552 soldiers and 20,146 short tons of cargo. Winter conditions hampered airflow and shifted airport destinations. Adjustments were made and only slight delays were experienced in the deployment. Some air to air operations were used to move misdirected

units to the designated POMCUS sites. All in all the transportation system met expectations and responded according to established standards.

During phase II, POMCUS equipment was drawn by 39 different deploying units from 8 different POMCUS sites.⁵ The POMCUS draws began within 8 hours of arrival of advanced parties. The sites issued on a continuous (24 hour) basis instead of on pre-determined schedules.⁶ REFORGERS of the 80's typified these initiatives and even expanded to simultaneous draws or more than one unit drawing at an individual site at a time.

REFORGER 89, for example was conducted primarily out of the 15th Combat Equipment Company, Herongen, Germany. In less than six days, a total of 29 units were drawn from the site. Two to three units were on the site continuously with a peak of four units on the fourth day. While not all sites can issue multiple units continuously, the 24 hour operation with simultaneous activities greatly enhanced the responsiveness of POMCUS to the deploying forces.

Another initiative during REFORGER 79 was a reduction in the Marshalling Area time to 72 hours.⁷ From REFORGERS 79 to 89, 72 hours remained the standard. During REFORGER 89 and likely during contingencies, this time was reduced even further for some units. Three of

the units drawn were in and out of the Marshalling Area at Leuthe within 36-48 hours. .

This reduced Marshalling Area time must be combined with other initiatives started in 1979 and refined through 1989 in order to reduce the time required for combat configuration. The requirement for combat configuration did not disappear, but simply shifted to the daily missions of the POMCUS site. Many of the labor intensive activities such as the upload of communication equipment, camouflage systems, tool sets, repair parts, and supplies were performed during the POMCUS sites' annual maintenance programs. As many of the time consuming requirements as possible were performed during the year to save time and relieve some of the time constraints placed on the deploying forces during a contingency or REFORGER Exercise. Reduced Marshalling Area time coupled with increased readiness/combat configuration at the time of the draw from POMCUS equates to better responsiveness by POMCUS.

A final aspect illustrating the capabilities and limitations was the readiness state of the stored equipment. From the early years to 1990 issue rates have gone from 90% to above 98% and remained constant. The following numbers from REFORGER exercises illustrate this significant capability:

	R87	R88	R90	
WHEEL VEHICLES	4915	2115	1377	
TRACK VEHICLES	1271	909	188	
TRAILERS	2224	726	441	
ENGINEER	244	675	402	
TOTAL/DID NOT LEAVE SITE	8654/18	4425/17	2408/5	
PER CENTAGE	99%	99%	99%	(8)

REFORGERS, however, were well published events with long lead times for preparation and maintenance time. This early warning made many skeptics question the readiness rates produced by the REFORGER exercises. Emergency Deployment Readiness Exercises (EDRE) of the REFORGERS, however, carried short warning times from notification to issue time and also provided data for readiness evaluation. The issue rates for the EDRE units carried the same high readiness rate and demonstrated the responsiveness of POMCUS to the deploying force.

Accessibility during REFORGER 79 was enhanced with the increased access to three more NATO countries' air and sea ports. This exercise marked the first time use of Antwerp and Deurne, Belgium. Host nation support was provided at sea and airports in Belgium, The Netherlands, Luxemburg, and Germany. Support consisted of load and off load of cargo, security, sanitation, real

estate, traffic control, communications, and air defense. With POMCUS sites in all four mentioned countries, treaties explicitly discuss open access in the event of contingency. Each country, also requires the opening of its lines of communications during the annual exercises to test its standing operations.

Finally, during REFORGER 79, increased activities of Soviet Military Liaison Mission, terrorist activities and general protest were anticipated. During REFORGER 89, very little activity was anticipated. The intelligence community issued the following for REFORGER 89:

1. There is no known threat of sabotage...by intelligence services, host nation communist parties or dissident groups.
2. Any attempts to conduct large demonstrations are likely to be unsuccessful due to a lack of support from the local populace.
3. The threat of terrorist attacks... is low.⁹

This intelligence report was indicative of the attitudes of the general population towards the acceptance of the U.S. presence. Acceptance of this presence was paramount to unobstructed access to the storage sites and the transportation centers during both phases of

deployment.

Desert Storm

The support to Desert Storm centered on the issue of thousands of pieces of equipment to the war zone and to Desert Comfort. This huge success story appears to support a new flexibility of POMCUS support to other theaters and counters the the inflexibility issue of staging POMCUS in the vicinity of the threat. This accomplishment, probably would not have occurred had the Berlin Wall not fallen and the threat situation not changed so dramatically in 1989 prior to the war. The treaty agreements under NATO did not and still do not allow the lowering of the defensive posture of NATO by shipping POMCUS assets out of theater.

This mission did lend credibility to one aspect of the POMCUS considerations-- responsiveness. POMCUS was able to surge with large quantities of equipment issued to the theater deploying forces and with entire fleets of equipment to the Desert Storm supply system, as well. The quantities of certain fleets issued often exceeded REFORGER quantities issued. For example every Abrams Tank, forklift, light wheeled vehicles, heavy wheeled vehicles, cranes, generators, and water trailers, to name

a few, were issued from most sites. With entire fleets of equipment being issued from sites crossleveling of assets to meet issue requirements could not occur and long lead times for preparation did not exist. Readiness reports indicated the same high maintenance posture as was indicated in the REFORGER exercises.

USAREUR Backfill Program

The United States Army Europe Backfill Program was created to offset the loss of capabilities within the theater upon deployment of the forces to Desert Storm and Desert Comfort Operations. Much of the backfill support came in the form of Reserve or National Guard Units brought on active duty to backfill units deployed to the war zone. These units consisted primarily of military police, engineer, maintenance, and ammunition organizations.

Although non-POMCUS organizations, these units were notified of their mission and equipment draw from POMCUS. Simultaneously, POMCUS sets were configured from structures for equipment and organizations called Tables of Organization and Equipment provided by the reserve unit or their USAREUR based sponsor. The reserve units were then mobilized and drew POMCUS equipment.

Since these units were not POMCUS designated, the unit sets of equipment literally were configured and organized from scratch. More often than not, large portions of the mission essential equipment were not located on the issuing POMCUS site. This required a massive cross levelling effort by the Combat Equipment Group, the Combat Equipment Companies, and the transportation community.

Inherent to this mission were several steps:

1. Verification of assets on site for the mission. Verification of equipment with known Desert Storm and Desert Comfort missions to preclude duplicate taskings for same equipment.
2. Identify shortfall and search assets within sister companies in the battalion and then group.
3. Ship equipment to gaining site and configure set for the drawing unit. Remember this means all equipment and supplies requested by the drawing unit as well as up load of radios, tool sets, etc.
4. Issue equipment to drawing unit.

These labor and management intensive steps required extended hours and overtime. All missions were completed successfully with the same quality and standard as the

competing Desert Storm missions.

The program had confirmed the ability of POMCUS to reconfigure and shift assets within theater in a very short period of time. It also confirmed the capability to issue to Reserve and National Guard as well as non-POMCUS designated units if changes in the deployment sequence/situation warrants. The United States Army Europe Backfill Program's success supported the theory that POMCUS was not as rigid as believed and that flexibility did exist for non-traditional POMCUS missions.

Conclusions

REFORGERs, support to the USAREUR Backfill Program, and support to Desert Storm were all viable tests of several aspects of the POMCUS concept. Designed with specific goals and objectives, the exercises tested fully the capabilities to project power into the European theater quickly. Critical to the success of POMCUS were the rapid projection of forces (responsiveness); the reception of forces (responsiveness, vulnerability and accessibility); issue of ready equipment from POMCUS (responsiveness and flexibility); and the rapid configuration for combat (responsiveness and accessibility).

Not supported by the results of exercises were considerations of deterrence, cost, and stability.

ENDNOTES

¹ US ARMY. USAREUR and 7th Army After Action Report: REFORGER 81 (Confidential) Mar 1982, 1.

² US Army. USAREUR and 7th Army After Action Report: REFORGER 75, Vol I, 13 Feb 76, 1-2.

³ US Army. USAREUR and 7th Army After Action Report: REFORGER 79, 25 Jan 1980, 1.

⁴ Ibid, 2-4.

⁵ Ibid, D-1.

⁶ Ibid, 4-5.

⁷ Ibid, 4-5.

⁸ Numbers come from a Combat Equipment Group, Europe REFORGER after action information brief dated 1991.

⁹ US Army Intelligence Center, Europe. US Army, Europe and 7th Army Intelligence Report: REFORGER 89, (EUR-2400-CIT EX-89) SEP 89, ix.

CHAPTER 6

Conclusions and Recommendations

Introduction

The POMCUS concept has demonstrated a significant role in bridging strategic deployment shortfalls in the defense of Europe. There are still limits and constraints concerning the best application of the POMCUS concept. The previous chapters examined the implications of the national defense strategy concerning the POMCUS concept, considerations for employing POMCUS support to Europe, the history of the program, and the results of REFORGERS and other tests of the concept. This chapter analyzes the information discussed in the previous chapters and searches for the consistent themes or trends. The final result is a set of considerations which were used for Europe and which could have application in other theaters.

The considerations are based on lessons learned from numerous experienced leaders and logisticians, several commanders of POMCUS sites and deploying units, personal experience, and results of numerous REFORGERS and

other tests. A consideration is deemed valid if it has application to POMCUS as outlined in the criteria discussed in the definitions and in Chapter 4. Additionally, there must be relative evidence supporting the consideration. The evidence comes in the form of after action reports, audits, lessons learned, studies, REFORGERS, Desert Storm After Action Reports, and personal experience.

These considerations are not hard and fast independent factors. They are all inter-related and do not stand alone. A negative response to any of the considerations has a detrimental impact on the concept and must be carefully studied with all other considerations to assess the implications fully. Unfortunately these considerations will often conflict and military planners will need to carefully weigh the risks involved to ascertain any tradeoffs. None of the considerations are weighted as all carry important implications to the concept as a whole. The priority and importance of each consideration will vary with situation. This list of considerations, therefore, is designed as a starting point to focus strategic planners to ask the right type of questions.

Finally, after looking through countless studies and reports, several consistent considerations evolved

supported by some verifying evidence. Still other considerations came to mind with application but no real substantiated evidence. The latter of these consideration patterns seemed more a side benefit of the program as opposed to a conscious preplanning consideration. This category of consideration is still discussed but is indicated/identified in the list developed.

This chapter concludes with a series of considerations for the planning of POMCUS support to Europe and future theaters.

Considerations for the Placement of POMCUS into the European Theater

1. POMCUS is best suited to support the projection of heavy forces to counter heavy threat forces. The threat force arrayed must be heavy, mobile and lethal with an anticipation of intended use of aggression. If the threat forces are either light or not apt to commit acts of aggression, use some other form of power to counter the threat.

There is no consistent purpose for placing POMCUS in any theater with a conventional force threat of limited

capability. The original charter and concept was designed, developed and improved to enhance the projection of heavy forces and preclude the massive transportation requirements. All POMCUS projects and projects similar to POMCUS have always been arrayed in support of forces countering a heavy military threat.

Additionally, the threat needs to have the capabilities to maintain long periods of sustained aggressive behavior. POMCUS Europe required thirty years with an annual growth of approximately 10%-15% to reach the present day levels of stocks and facilities. If a threat is "here today, gone tomorrow", POMCUS can not realistically support the theater.

2. POMCUS deterrence effects can not be proven and are not primary considerations for the use of POMCUS in a theater. If, however the threat forces are able to see the projection of heavy forces through routine annual test programs and these forces are perceived as a danger to the threat's objectives and capabilities, then some deterrence effects can be assumed.

One of the original goals and objectives for the U.S. armed forces in Europe was the deterrence of aggression by the Warsaw Pact nations. Inherent in this

deterrence goal was the structure of a NATO force capable of providing the defensive capability until sufficient force ratios for the offense were achieved. The Ten Divisions in Ten Days concept was a corner stone in this defense in depth. POMCUS provided six of these ten divisions, and therefore played a significant role in the deterrence mission.

It cannot be proven that POMCUS or even the combined NATO military force as a whole caused the down fall of the Warsaw Pact. However, it was demonstrated that every increase in the capability of NATO was related to a counter response by the Warsaw Pact countries. These counter responses appeared to coincide with the weakening of the Soviet national elements of power. This weakening of the Soviet power had a domino effect and could have been caused by a shifting of resources and focus inward instead of outward to the free portions of Europe.

It can be assumed that some deterrence benefits of POMCUS can be anticipated but not planned as considerations. These unproven considerations will probably carry little weight with the other planning considerations and remain one of the fringe benefits of the program.

3. Stocks must be available in both peace and conflict

with unconstrained access by U.S. forces. Additionally, the Host Nation Support infra-structure must enhance, not hamper, accessibility. Treaties and agreements must be strong enough and written in such language as to ensure access in spite of regional political changes.

If access is in question, POMCUS can not be planned or counted upon by a deploying force. The lack of access to prepositioned assets can and probably will cause undue hardships and loss of life and equipment.

4. POMCUS storage sites have political and social impacts on the local population and conversely local population stability impacts on the POMCUS sites.

If the regional population is unstable and security is questioned then careful considerations of the impacts on the use of POMCUS are necessary. If, however, protests, employee strife, political acceptance are only present in a small portion of the population, and the impacts to operations are minimal, then POMCUS is a viable option.

5. Host nation must provide and ensure local security

through both civil and military forces.

Local security of European POMCUS sites is provided solely by the civilian police forces and territorial military forces. With the exception of some intelligence and some limited military police support in the southern sites, security of POMCUS sites are outside the capabilities of the stationed forces. If POMCUS were to be placed into a theater with neither the threat of United States forces stationed in theater, nor the enforcement of security measures by local civilian or military forces risks out weigh benefits.

6. Early deployment and rapid projection of forces is essential in reducing the vulnerability of sites to Level III threats.

Europe threat warning time is expected to be very long in duration. The deployment system as established will allow plenty of time for deploying forces to establish security at the storage sites against Level III threats. Without this long warning time the forces deploying could arrive simultaneously with threat forces. It is, therefore, imperative to ensure deployment times remain significantly shorter than threat reaction/action

times. Should these two time factors be reversed the POMCUS sites would be controlled by the threat long before the deploying forces arrive.

7. Flexibility to shift resources between storage sites as well as between the sites and the continental United States is essential for the organization to keep pace with force structure, doctrinal, or technical changes.

Most organizations undergo changes in their Table of Organization and Equipment on a routine basis. The personnel then train with and on the new equipment and to the new doctrine. Without the ability to change the equipment sets on a routine basis, the unit's training program would not coincide with the equipment sets stored.

8. If one designated set of POMCUS assets are planned to support more than one theater, political/diplomatic negotiators must ensure the treaties do not limit this capability.

If the POMCUS sets are designated to support a theater against a given threat, treaties will likely restrict the weakening of the defensive posture. A good example of this dilemma was the blocking of actions to

replenish Israeli equipment and supplies after the 1973 war. NATO's reluctance to approve the request was supported and documented within the existing treaty. The United States was, therefore, obligated to enforce the wishes of the NATO organization.

If the strategic goals of any given set of equipment is in support of multiple theaters, then the treaty must be written with the flexibility to execute such a mission.

9. In order for POMCUS to be responsive to a deploying force, air lift must be able to deliver the bulk of the required force within 96 to 148 hours of notification of deployment.

Lessons learned from REFORGER Exercises, Desert Storm and other conflicts clearly indicate the necessity to deploy the initial force within the first 3 to 6 days of hostilities. This period of time will allow the deploying force to establish lodgements in a less than hostile environment. Additionally the time allows maximum combat configuration prior to employment. This factor alone should increase combat effectiveness and lower casualties.

If the transportation system becomes unable to

surge as it did for the REFORGER Exercises or Desert Storm, the ability of the United States to place the necessary combat power on the ground to counter the threat is unlikely. Should this scenario develop, POMCUS sites would be in jeopardy as would any unit trying to deploy to the sites.

10. POMCUS upload configuration, issue procedures, and readiness are critical to shortening the deployment to employment time of a unit.

Deployments for REFORGERS prior to 1975 found many units still sitting in the Marshalling areas after four days of combat configuration. Much of the time was lost due to the storage configuration and issue procedures of the sites. While this longer time might be tolerable for the later arriving units, it is urgent for the earliest units to configure and be prepared for employment within the first two to three days.

These shorter configuration times are directly effected by the amount of configuration that is performed while in storage prior to deployment.

11. POMCUS costs are less than costs associated with stationing forces in theater or building airlift/sealift

assets to meet requirements.

POMCUS is however still very expensive due to multiple sets of equipment, large facility requirements, and high operating costs. Planners must be prepared to fund the tremendous costs of POMCUS.

12. POMCUS creates the requirement for multiple unit sets of equipment and often extends the fielding period for modernization cycles within the Army.

Planners must be aware of this long cycle and the detrimental effects the cycle has on training, modernization, and readiness of non-POMCUS units. Even as late as this year many of the units deployed to Desert Storm required upgrades in equipment to be fully modernized and effective. Many of these pieces of modern equipment were sitting in the warehouses in Germany. Literally thousands of pieces of force modernization equipment was shipped from the POMCUS stocks to meet up with these less than modernized units.

With the modernization came training in order for the unit to reach combat readiness for employment. Luckily the time line allowed for this training curve. The point, however, clearly shows that due to the long fielding cycle a fully modernized POMCUS will be at the

expense of some stateside units.

13. POMCUS requires an extensive support infrastructure from host nation. Resources, as a minimum, must include skilled and unskilled labor, transportation networks, air and sea ports, and communication networks.

The European experience clearly indicated over the years that POMCUS is totally dependent upon host nation support for success. Ninety per cent of the sites manpower comes from local national employees. Large portions if not all site security, supply, maintenance, and transportation support comes from local host nation support. Ports, airports, and rail heads are readily available to support the sites and the deploying forces. If these support relationships did not exist, the United States would either station military forces to perform the mission or send in contract operations to run the sites. Both options however would be too costly and would still rely upon host nation to support transportation terminals.

Industrial and fully developed countries could clearly support this consideration. Commercially trained and skilled labor can easily be converted to the military peculiar skills required on a site and on any of the transportation/communication terminals.

Planning staffs tasked with the placement of POMCUS assets into any theater world-wide can now use these considerations as an alert to problem areas. With the present force restructuring on-going within the U.S. Army and the threat of global contingencies on the increase, planners are searching for strategies for military reaction. These considerations can provide a good basis for evaluating the feasibility of POMCUS in satisfying any of the planned strategies.

Recommendations

1. If POMCUS is to be considered for future use in other than the European theater, the strategic planners should use the considerations developed by this study to compare the distinctive characteristics of the new theater and not simply export the successes of the European based POMCUS. Much of the success realized in the Army's POMCUS program can be directly attributed to the uniqueness of the European situation.
2. The NATO treaty needs increased flexibility to ensure the use of European assets in support of other theaters. The State Department should renegotiate the language of the treaty with NATO, in light of the changing political

structure of Europe. The changes should authorize the United States to access and utilize POMCUS resources in other than the European or NATO area of responsibility.

3. POMCUS stocks and facilities should be moved in conjunction with the treaty negotiation to locations north and south of the Alps. This would open new capabilities of supporting the Mediterranean region with rapidly deployable heavy forces from the United States.

4. With the present situation in the Southwest Asia regions, the placement of POMCUS should not be executed at this time. Accessibility, vulnerability, and regional stability issues make the risk of equipment and personnel losses too great. Planning and negotiations for future efforts should continue, if these efforts do not carry substantial associated fiscal costs.

4. A follow on study should be conducted for the feasibility of expanding the Army's prepositioning afloat to include POMCUS, similar to the marine program.

5. Additionally, a study should be conducted to explore the feasibility of POMCUS sites near stateside deployment terminals to speed deployment and mobilization operations.

6. A study into the feasibility of using the same systems employed by the Israeli depots should be conducted. The Israeli system appears to provide the same effect without the extremely expensive facility requirements. Additionally, the ability to move the storage site lends to increased flexibility while reducing vulnerability.

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