

To TPFDD or not to TPFDD: Is the TPFDD Outdated for Expeditionary US Military Ops?

**A Monograph
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Abstract

To TPFDD or not to TPFDD: Is the TPFDD Outdated for Expeditionary US Military Operations? SAMS MONOGRAPH by MAJOR Brian M. Newberry, U.S. Air Force, 54 pages.

Commanders routinely undervalue logistics, despite the fact that logistics is arguably nine-tenths of the formula for winning. For the United States, this reality has significant consequences since every war beginning with the Spanish-American War in 1898 to the latest Operation IRAQI FREEDOM (OIF) conflict has relied on *moving* US forces over extended distances. Indeed, despite the importance of logistics in an expeditionary age, the US military has not settled on a standard deployment practice to move its forces. In the early 1990s, the US adopted a Time Phased Force Deployment Data (TPFDD) as the method to plan out and execute large-scale deployments. First tested in Operation DESERT STORM, the TPFDD remained the principle vehicle through the 1990s to schedule movement of forces. However, a decade later, the TPFDD was abandoned in favor of a Request for Forces (RFF) procedure in the latest OIF contingency in an attempt to build force packages more expeditiously as the campaign unfolded.

This monograph provides an in-depth historical comparison of the TPFDD and RFF process to determine which process best prepares the US to move its forces to meet future threats on distant battlefields. Both deployment processes supported massive movements, but both processes extensively *drove the employment* of combat forces dictating when the operation would commence and what forces were ultimately available. Although the DESERT STORM TPFDD was hindered by external and internal factors, it was a success as the combat forces did establish a significant deterrent foothold immediately in Saudi Arabia with a massive, fully capable defensive force in place twelve weeks later.

Likewise, twelve years later, the RFF process provided the forces necessary to accomplish OIF's initial combat objectives in no uncertain terms. Saddam Hussein's regime was toppled and US combat forces transitioned to post combat operations in less than three month's time. Despite the overall success, internal and external factors arose which hindered the operation much as issues and complications arose in the first desert deployment. The bureaucratic staffing approval process, a decision to delay reserve mobilizations, and a delay in deploying logistics enablers impeded OIF combat operations.

The many similarities between the two deployments are such that they can be compared to evaluate the TPFDD process against the RFF process. In the end, this comparison, using *FM 3-0's* strategic responsiveness criteria, shows many similarities and only a few subtle differences between the two deployment practices. Similarly, the criterion of time necessary to move the forces only minimally differentiates the two processes. In total, both deployment practices have advantages and disadvantages that suggest no clear conclusions on the best deployment model.

Yet, both deployment practices are far from perfect so the Department of Defense is spurring a new initiative known as adaptive planning to mitigate these commonly experienced problems of deployment. Specifically, adaptive planning seeks to use new tools, educated people, and responsive products to once and for all effectively simplify and minimize the ripple effects inherent in the transportation system. It establishes a new iterative path of spiral development to a more responsive deployment structure. A future TPFDD or RFF deployment, against an adaptive planning backdrop, managed by new technological based tools, will most certainly look different than the two case studies in this monograph suggest. If it does look different in its ability to expertly plan ahead yet seem simple in execution, it will have moved to a lofty goal where deployment will no longer exclusively drive employment as is currently the case.

TABLE OF CONTENTS

INTRODUCTION AND BACKGROUND	1
THE US DEPLOYMENT IMPERATIVE.....	3
THE TPFDD and OPERATION DESERT STORM	5
THE TPFDD IN THE AFTERMATH OF DESERT STORM	10
THE TPFDD and OPERATION IRAQI FREEDOM	15
RFF and OPERATION IRAQI FREEDOM	19
THE RFF PROCESS IN THE AFTERMATH OF OIF	21
THE TPFDD AND RFF IN CONTRAST.....	28
THE WAY FORWARD: TO TPFDD OR NOT TO TPFDD?	37
CONCLUSION AND RECOMMENDATION	46
BIBLIOGRAPHY	52

TABLE OF FIGURES

Figure 1: Example of a cargo movement in TPFDD	4
Figure 2: Tonnage moved in DESERT STORM.....	9
Figure 3: Real “iron mountains”	11
Figure 4: Mobilized reserve unit loading on the train	19
Figure 5: Sealift of OIF cargo..	20
Figure 6: Long lines of OIF equipment.....	24
Figure 7: OIF deployments relied on people, cargo, and the means to get them there	29
Figure 8: Deployment practices compared against responsiveness criteria	35

INTRODUCTION AND BACKGROUND

“The provisioning of troops, no matter how it is done, whether through storehouses or requisitions, always presents such difficulty that it must have a decisive influence on the choice of operations.”¹

Carl von Clausewitz

Renowned military strategist Carl Von Clausewitz remarked two centuries ago that the concept of logistics, while not in the forefront of the general’s concerns, ultimately has a decisive influence on military operations. Similarly, another renowned military strategist Antoine Jomini based his war theories in his tome *The Art of War* on a trinity of strategy, tactics, and logistics, each influencing the other.² Jomini stated: “Logistics comprises the means and arrangements which work out the plans of strategy and tactics. Strategy decides where to act; logistics brings the troops to this point; grand tactics decides the manner of execution and the employment of the troops.”³ Without question, logistics, or the science of planning and carrying out the *movement* and *maintenance* of forces, has always been understood as being vital to the conduct of war.⁴ Yet, as author Douglas Menarchik notes in his study *Powerlift—Getting to Desert Storm*, “Commanders routinely and historically have undervalued logistics, despite one historian’s finding that logistics is nine-tenths of the ‘business of war.’”⁵ For the United States, this reality has significant consequences since every war beginning with the Spanish-American War in 1898 to the latest Operation IRAQI FREEDOM (OIF) conflict has relied on *moving* US forces over extended distances.

Since logistics is a key ingredient to military success, US logistics organization and structure should be flushed out to smoothly support an expeditionary military. In the early 1990s,

¹ Carl von Clausewitz, *The Principles of War*, trans. Hans W. Gatzke, in *Roots of Strategy: Book 2* (Mechanicsburg, PA: Stackpole Books, 1987), 370.

² Douglas Menarchik, *Powerlift—Getting to Desert Storm* (Westport, CT: Praeger Publishers, 1993), 1.

³ Baron Antoine Henri de Jomini, *The Art of War*, trans. J.B Lippincott & Co., Philadelphia, 1862 (London: Greenhill Books, 1992), 69.

⁴ DOD dictionary, Internet: www.dtic.mil/doctrine/jel/doddict/. Accessed 3 October 2004.

the US adopted a Time Phased Force Deployment Data ((TPFDD) pronounced “TIP-fid”) as the method to plan out and execute large-scale deployments. First tested in Operation DESERT STORM, the TPFDD remained the principle vehicle through the 1990s to schedule movement of forces in support of a combatant commander’s request for troops and equipment. However, a decade later, the TPFDD was abandoned in favor of a Request for Forces (RFF) procedure in the latest OIF contingency in an attempt to build force packages more expeditiously as the campaign unfolded. As Clausewitz noted two centuries ago, *logistics influence operations* and the effects of the TPFDD on DESERT STORM and RFF on OIF again proves this maxim. In the end, an analysis of these effects from these two similar deployments suggests conclusions to make the “nine-tenths of war” as efficient as possible.

This monograph will provide an in-depth historical comparison of the TPFDD and RFF process to determine which process best prepares the US to move its forces to meet future threats on far way battlefields. As the US military continues to transform from its Cold War, forward deployed force to a mobile, CONUS-based force, the manner forces are deployed becomes even more important. This point is underscored by the recent announcement bringing 70,000 US troops back from Europe to the US.⁶ To answer this deployment dilemma, five separate monograph sections will chronologically address the current situation and synthesize what it all means for future expeditionary operations: first, the monograph examines the mechanics of the US deployment process; second, it will detail the mechanics of the TFPDD process and its impact on DESERT STORM; third, it reviews the RFF process; fourth, it examines the impact of RFF on the OIF deployment. Finally, the monograph will contrast the two deployment processes in context of future expeditionary operations as a means to suggest a better path for upcoming deployments.

⁵ Menarchik, 1.

⁶ “Shake-up for US troops overseas,” *BBC News*, 17 August 2004. Internet: www.news.bbc.co.uk. Accessed 6 October 2004.

Indeed, both deployment processes supported massive movements, but both processes extensively drove the employment dictating when the operation would commence and what forces were ultimately available. Accordingly, to move beyond this constraint, an agile and more adaptive process, *enabling employment to drive deployment*, is the ideal required if the “ninetenths of war” is to make the one tenth of war, combat operations, remarkably effective. In other words, combat operations should not be dictated to but rather supported by an efficient deployment process delivering the capabilities requested. In hindsight, Clausewitz and Jomini focused on different aspects in their studies of war, but they both agreed on the importance of logistics. This importance has remained as the backdrop of all US operations, but the use of two different deployment methods indicates the US has not settled on a manner to organize its forces to deploy. Given the immense importance of logistics, it would be wise to establish and train to a method of *movement* that ensures continued US dominance, particularly in a future where expeditionary operations dominate. Civil War cavalry officer Nathan B. Forest succinctly commented that the key to military victory was to “Get there first with the most.”⁷ For the US to get there with the most, the question becomes to TPFDD or not to TPFDD, to RFF or not to RFF, or maybe there is a third choice that the examination of the two deployment practices reveals.

THE US DEPLOYMENT IMPERATIVE

“Nothing succeeds in war except in consequence of a well prepared plan.”⁸

Napoleon

Current US war planning in the logistics realm is accomplished via the Joint Operation Planning and Execution System (JOPES), an electronic information system that allows military planners to monitor, plan, and execute US joint military deployments. It uses a variety of computing and communications systems to provide command and control of joint military operations enabling transportation connectivity between combatant commands and the focal point

⁷ Menarchik, 172.

of transportation management, United States Transportation Command (USTRANSCOM). By connecting with JOPEs, deploying units can see when they will move. Likewise, airlift and sealift operators can see their taskings and prepare to accomplish lifts.⁹ The force package information captured in JOPEs is the basis for a database known as the TPFDD. In a nutshell, the TPFDD shows the units to be deployed, their priority, the routing of forces to be deployed,

HOW TO READ A TPFDD F11W

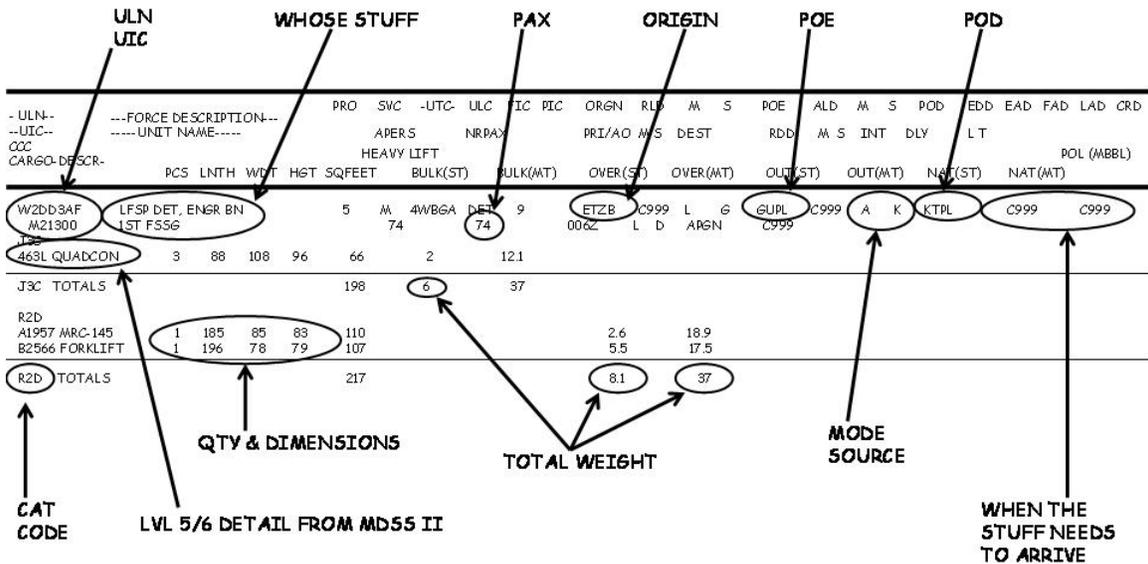


Figure 1: Example of a cargo movement in TPFDD: source TPFDD'ing For Grunts

any movement data associated with deploying forces, as well as estimates of non-unit related cargo and personnel movements to be conducted.¹⁰ Ultimately, the TPFDD database allows planners to forecast and execute strategic movement of forces from one geographic region to

⁸ Beth F. Scott, ed., *Quotes for the Air Force Logistician* (Maxwell-Gunter AFB, AL: Air Force Logistics Management Agency, 2001), 139.

⁹ David Kassing, *Getting U.S. Military Power to the Desert: An Annotated Briefing* (Santa Monica, CA: RAND, 1992), 9.

¹⁰ *Tpfdding For Grunts*, PowerPoint presentation by Mathieu and Lasker. Internet.

another. *It identifies deployable capabilities* within the US military and thus in essence forms a deployment document either for a deliberately planned operations plan or for an actual contingency.¹¹

Peter J. Higgins in his article “The Deployment Imperative” urges military logisticians to understand JOPES and the TPFDD so the military can effectively fulfill its responsibilities spelled out in the *National Security Strategy*.¹² As required by joint doctrine, military planners have developed notional TPFDD plans to support operational plans tying needed forces with apportioned transportation assets. In times of crisis, applicable operation plans with TPFDDs are then tailored with current force requirements and actual deployment assets (generally airlift or sealift) to create an actual deployment document that worldwide JOPES users can interface with. While simple in theory, the deployment imperative becomes complicated in practice as limited deployments assets are matched with competing force packages in a time critical fashion. The TPFDD process and JOPES system met its first challenge in 1990 when tasked to support the largest US military deployment in recent history, Operations DESERT SHIELD and DESERT STORM. Napoleon’s dictum that nothing succeeds in war except in consequence of a well prepared plan would indeed be tested on the logistics front.

THE TPFDD and OPERATION DESERT STORM

“The task faced by the logisticians can only be described as daunting and their success can only be described as spectacular.”¹³

General H. Norman Schwarzkopf

The TPFDD was the foundation that allowed for the spectacular logistical success described by Schwarzkopf for DESERT STORM. It provided a structure to phase deploy the largest deployment of US troops since the Vietnam War over a six month timeframe. Although

¹¹ Ibid.

¹² Peter J. Higgins, “The Deployment Imperative.” Internet: www.almc.army.mil/alog/issues/JulAug00/MS555.htm. Accessed 11 August 2004.

the deployment was not flawless in execution, many of the deployment problems can be traced to *external* influences on the system including the first-time use of a relatively new TPFDD process. In fact, RAND's analysis on DESERT STORM's deployment planning notes that a "transportation feasible" deployment plan had not been completed when Iraqi forces invaded Kuwait in August 1990. To further complicate the deployment situation, RAND's report noted that personnel lacked JOPES training and important installations even lacked the equipment to interface with JOPES.¹⁴ Indeed, Air Force Captain Stephen Marr, Deputy Director Transportation for Central Command Air Force during the deployment, noted that his headquarters' personnel needed to daily travel a mile to Central Command (CENTCOM) headquarters to check JOPES for incoming cargo movements. In November 1990, four months after the deployment began, his transportation headquarters finally received the needed computer terminals to plug into the logistics electronic highway.¹⁵

Besides inexperience with JOPES, another *external* factor delaying the implementation of the TPFDD was an incomplete logistics plan that anticipated the US responding with 100,000 troops to fight the Soviets or Iranians in the Middle East. Additionally, as Bob Woodward notes in his book *The Commanders*, plan 90-1002 assumed 30 days advance warning before the actual commencement of the deployment, which the US did not receive with the Iraq invasion of Kuwait. Moreover, Woodward notes that the plan had only been updated by junior officers and not given the high-level attention the earlier invasion of Panama plan had received.¹⁶ An updated version to defeat an Iraqi attack on Saudi Arabia was being worked on by CENTCOM, but was not scheduled to be finalized until April 1991, nine months too late for when Iraq tanks crossed

¹³ Association of the United States Army, *Operations Desert Shield and Desert Storm: The Logistics Perspective* (Arlington, VA: Institute of Land Warfare, 1991), 28.

¹⁴ Kassing, 9.

¹⁵ Stephen Marr, USTRANSCOM Exercise Planner, J-5, telephone interview by author, 23 September 2004.

¹⁶ Bob Woodward, *The Commanders* (New York: Pocket Books, 1991), 200-1.

the border of Kuwait.¹⁷ Consequently, as the Iraq crisis unfolded, Central Command scrambled to update an incomplete logistics plan tied to an operational plan designed to introduce US forces quickly into the Arabian peninsula for use against Iran or the Soviet Union. Moreover, much of the transportation data had inaccurate indicators and pre-war assumptions that further complicated data processing. Specifically, US Transportation Command's study of the DESERT STORM deployment, *So Many, So Much, So Many, So Fast*, acknowledged that the operation plan 90-1002 listed equipment removed from the inventory years earlier and did not reflect the military's most modern equipment.¹⁸ Initially, logistic planning cells produced a revised TPFDD looking one to three days out, and then expanding it to 14 days out. Two weeks after deployments began, Central Command was finally able to catch up to validate the requirements two to three days out. In other words, by mid August 1990, the TPFDD process began to work as initially envisioned.¹⁹

As expected, the initial deployment organization problems showed *internal* TPFDD inefficiencies as well that manifested itself in the deployment flow. For example, the original TPFDD scheduled moves for units that no longer existed.²⁰ Menarchik's book *Powerlift* relates many horror stories where airlift arrived to locations only to find no units were available to deploy. Quite often, the hasty planning cells ordered aircraft to airfields where the available cargo was not able to fit on the aircraft. In one poorly planned move, a hospital was deployed to Bahrain, but the hospital was not allowed to set up in the country where the aircraft landed.²¹ The *external* factors of an incomplete plan coupled to *internal* disconnects in the TPFDD itself put the system under a severe test and in crisis mode. So, the planners decided "the idea was to

¹⁷ Michael R. Gordon and General Bernard E. Trainor, *The Generals' War* (New York: Little, Brown, and Company, 1995), 45.

¹⁸ James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast* (United States Transportation Command: Joint History Office and Research Center, 1996), 21.

¹⁹ Menarchik, 59.

²⁰ Matthews, 21.

²¹ Menarchik, 60.

move cargo/people *first* and then let JOPES catch up.²² Clearly, the ability to project ahead, as a TPFDD normally allows for, was initially handicapped by the *external* and *internal* factors and this led to hasty decisions and multiple coordination problems.

A second and more detrimental *internal* issue with the initial TPFDD analysis was inadequate lift to match the requirements. Menarchik relates: “The ad hoc TPFDD was totally inadequate for flow planning and simply was not transportation feasible.”²³ Specifically, much of the plan assumed the reserve transportation assets from ship to aircraft had been fully mobilized when they had not. Planning on the fly even at the unit level added confusion into the mix. The 82nd Airborne, for example, first forecast it needed 200 C-141 loads, then reduced the amount to 180 C-141 missions. In the end, they required 240 to 250 missions.²⁴ Such inaccuracies from the users coupled with a lack of available lift hampered an already notional TPFDD plan. These *internal* poor estimates exacerbated by a variety of negative *external* influences presented logisticians a massive hurdle to overcome in providing for the defense of Saudi Arabia in the first month of the Iraqi invasion.

The first step to overcoming the hurdle occurred when the first TPFDD was published on August 14 allowing US Transportation Command (USTRANSCOM) to see the magnitude of lift required to move CENTCOM’s requested forces. Once this validation occurred, USTRANSCOM made every effort to garner other lift assets from other services and started the first stage of activating the Civil Reserve Fleet.²⁵ Finally, 28 days after the deployment process began, CENTCOM was projecting ahead enough to validate the TPFDD seven days out giving transportation planners more opportunities to work out problems ahead of time. This standard

²² Matthews, 23.

²³ Menarchik, 60.

²⁴ Ibid.

²⁵ Ibid., 65.

process of proposing and then approving a transportation plan at least a week out continued for the duration of the deployment.²⁶

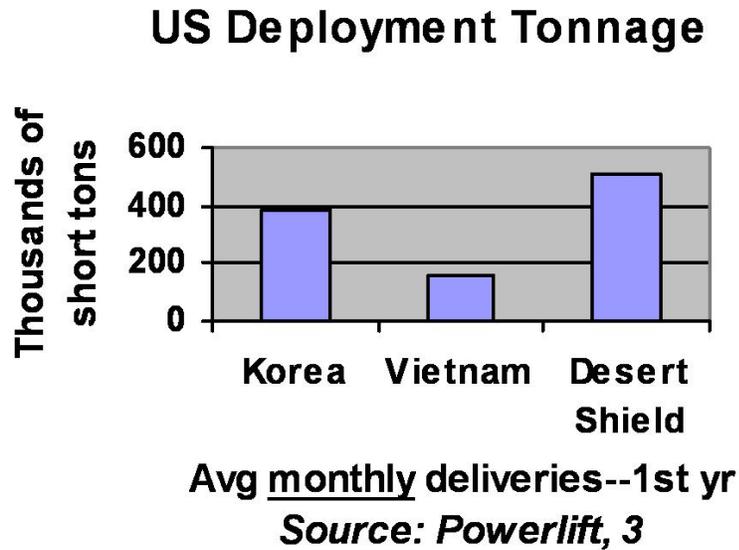


Figure 2

In the end though, despite a variety of the aforementioned planning disconnects, a rudimentary TPFDD complimented by JOPES electronic architecture contributed to the largest deployment of troops and material since Vietnam and the pace of the deployment *far exceeded* any other previous military deployment. The TPFDD ultimately required that airlift haul 63,500 troops and 75,479 short tons of equipment and supplies. In actuality, USTRANSCOM was able to flex with the help of reserve airlift to accommodate 95,700 passengers and provide 85,400 short tons of unit cargo. Airlift also delivered 85,400 tons of sustainment cargo in addition to the required cargo.²⁷ Sealift carried an amazing additional 6,501,559 short tons of cargo.²⁸ The massive success in providing General Schwarzkopf the means to expel Iraq from Kuwait was nothing short of spectacular in dimension. The TPFDD can clearly be credited with creating an organized plan to move forces over six months to provide the means for the US to eject Iraq out

²⁶ Ibid., 62.

²⁷ Ibid., 164.

²⁸ Ibid., 113.

of Kuwait. While *internal* problems matching lift to requirements slowed the process down, other *external* factors like inexperienced JOPES personnel and a rudimentary plan detracted from the TPFDD's overall success as well. Yet, neither of these factors prevented the TPFDD from planning ahead and ensuring US success in the war. Logistics borne of a TPFDD drove employment dictating the who, what, when, and where of US combat power in the Gulf ensuring a spectacular victory after just 100 hours of major combat operations.

THE TPFDD IN THE AFTERMATH OF DESERT STORM

“Logistics set the timing for the [Gulf] war more than any other factor”²⁹

Douglas Menarchik, *Powerlift*

Despite the outward military success, the US military analyzed the results of DESERT SHIELD/DESERT STORM and noted many areas for improvement. On the transportation front, a concerted effort was made to improve in-transit visibility so the receiving end forces knew what was coming and could move it forward in an attempt to minimize the rise of “iron mountains” of supplies that were readily visible in ports throughout the Persian Gulf. From a strategic perspective, military logisticians and think tank after action reports noted that several changes needed to occur to smooth out many of the obstacles encountered in the DESERT SHIELD deployment. The Rand analysis entitled *Getting US Military Power to the Desert* noted that deployment planning needed to be more responsive, and coordination needed to be improved.³⁰ At the center of this recommendation, RAND's report noted that JOPES was the heart of deployment coordination, and as such, needed to be improved. Kassing summarizes:

Modernization of the Joint Operation Planning and Execution System (JOPES) can help prevent such problems in future contingencies. It should aim at: (1) making that system more “user friendly,” (2) providing the responsible theater commander with full control over the system records, and (3) ensuring that all potential users—both deploying units and their transporters—have the equipment and personnel trained and practiced in using JOPES and other appropriate command and control systems.³¹

²⁹ Ibid., 172.

³⁰ Kassing, 57.

³¹ Ibid., 58.

Another RAND report entitled *Army Experiences with Deployment Planning in Operation Desert Shield* echoed Kassing's remarks noting that "perhaps the most important



Figure 3: Real “iron mountains;” theater transportation assets had to contend with large influxes of cargo at airfields and ports. Pictured above Army troops and equipment await C-130 transportation into theater.

lesson from [Operation Desert Storm] is that we need to re-examine how we do deployment planning and execution in this post-Cold War era where unexpected and unplanned for regional crises now seem to pose the most probable threats to US security.”³² DESERT STORM showed that procedures for deployment planning should be “repackaged” emphasizing flexibility and adaptability so as to create a new operations plan with a TPFDD in times of crisis. If a TPFDD is already in place, the system should allow for immediate and significant changes to make the TPFDD specifically applicable to the crisis at hand.³³ This call for an adaptive deployment

³² James Stucker and Iris M. Kameny, *Army Experiences with Deployment Planning in Operation Desert Shield* (Santa Monica, CA: RAND, 1993), x.

³³ Ibid.

system would also echo in the next major desert deployment, OIF, and form the basis for *current* initiatives to move beyond the TPFDD and RFF process to a more responsive process.

In fact, as the DESERT SHIELD deployment continued, planning and efficiency improved in part because additional training coupled to experience improved users' inputs to the process. Initially, as James Stucker notes in his RAND report, the "majority of planners were so busy coping with execution details needed for the following day or two that they could give little time (or thought) to looking further ahead and doing unit- or force-level planning."³⁴ Primitive planning teleconferences between the combatant commanders, elements of the deployment community, as well as specialized teleconferences for transporters served as the primary means of communication during August 1990 when the TPFDD was still notionally accurate.³⁵ Once the TPFDD was validated several weeks in advance, the ability to look ahead and anticipate shortfalls helped sync the deploying unit, the transporter, and the receiving unit while now the JOPES electronic software, instead of teleconferences, bore the brunt of communications. General Hansford Johnson, US Transportation Commander during the deployment, recommended that in addition to JOPES software revisions, logisticians needed to continue to use the system in peace: "Train, train, train, use, use, use was the real key to success with JOPES."³⁶ In summary, a major lesson from the massive DESERT SHIELD deployment was the importance of both a viable TPFDD and JOPES system with users familiar with the process to affect positive inputs and understand the outputs.

A final post-DESERT STORM reflection on the use of the TPFDD concerns the decision by General Schwarzkopf to prioritize combat units over combat support units, which impacted the US ability to supply units early on in the crisis. Uncertain of Iraq's intentions in the early part of the crisis, Schwarzkopf ordered A-10s and Patriot batteries to the theater and moved other anti-

³⁴ Ibid., 28.

³⁵ Ibid., 33.

³⁶ Matthews, 26.

tank and anti-armor units forward in the emerging TPFDD flow. This quick decision had unanticipated consequences as transportation planners needed to rework an already notional plan with further changes. In some cases, Air Force planners and Army planners disagreed on how to separate the combat and combat support units particularly when some Army divisions had integral logistical units. In the end, Menarchik notes the decision to separate combat and combat support units slowed the deployment.³⁷

The results of this decision are important to emphasize as a similar situation arose in OIF. The chief logistician for the deployment, Lt General William Pagonis, believed that it was not until mid-September of 1990 that the arrival of a large contingent of combat support enabled in place combat units to gain vital logistical support. At one point, Pagonis writes in his book *Moving Mountains* that four officers were the only logistics element in the theater. He exclaimed: “I was dying for logisticians. It was like inviting everyone to dinner except the cooks.”³⁸ The early combat forces, although of considerable deterrent value, lacked the mobility to move and sustain themselves. They did contribute to the deterrent effect and ultimately Iraq never attacked so the calculated risk paid off.

However, Schwarzkopf’s decision to prioritize the TPFDD with combat units in the forefront affected how the deployment flowed. The doctrinal level of 2:1 of combat support to combat never materialized in DESERT STORM. In the first months through November, it was less than 1:1 ratio only reaching 1.4:1 ratio by the end of the conflict.³⁹ Author Scott Conrad in his analysis *Moving the Force* saw this decision to delay the support forces as hindering operations explaining that logistics were severely stretched in the offensive phase showing “early

³⁷ Menarchik, 63.

³⁸ William G. Pagonis, *Moving Mountains Lessons in Leadership and Logistics from the Gulf War* (Boston, MS: Harvard Business School Press, 1992), 89-90.

³⁹ Menarchik, 119.

signs of fatigue after only 100 hours of intense combat.”⁴⁰ In a nutshell, deployment or the lack of deployment of logistical forces drove the ability of Schwarzkopf to employ his combat forces freely. After the fact, Lt General Pagonis realized the critical need to have in place a logistics structure to manage the incoming flow. Accordingly, following the war, he recommended that in a future conflict, it should be required that a brigadier general and a team of 100 army logisticians be placed at top of the TPFDD to ensure immediate insertion into the theater.⁴¹

In short, logistics did indeed set the timing for the Gulf War. It drove employment and the TPFDD was the vehicle to meter the flow. *External* factors such as a rudimentary initial plan and decisions to prioritize combat over support equipment directly impacted the TPFDD flow. Yet, the TPFDD-driven movement of combat forces did establish a significant deterrent foothold immediately in Saudi Arabia with a massive, fully capable defensive force in place twelve weeks later. This deployment, despite the hiccups, was completed *one month* ahead of schedule. Clearly, the TPFDD and its parent electronic management system, JOPES, were successfully tested with a massive flow of forces. Many including Defense Secretary Cheney lauded US Transportation Command as the “key to the success of Desert Shield.”⁴² Similarly, Conrad notes in his analysis that the Gulf War logisticians were miracle workers, but he warns that the clear importance of logistics in an expeditionary mobility strategy requires the US to mitigate some of the TPFDD impediments in a future large deployment.⁴³ As if he was making a prescient predication, a decade later, the US would be faced with a similar problem of moving an offensive force to again wage combat against Iraq. Would the US deploy in a similar matter?

⁴⁰ Scott W. Conrad, *Moving the Force: Desert Storm and Beyond* (Washington DC: National Defense University Press, 1994), 29.

⁴¹ Pagonis, 207.

⁴² Menarchik, 117.

⁴³ Conrad, 55.

THE TPFDD and OPERATION IRAQI FREEDOM

“Operation Iraqi Freedom is one of the largest supply and support efforts the United States has ever undertaken.”⁴⁴

GAO

Despite taking the lessons learned to heart concerning the TPFDD, the US would deploy via a RFF system in OIF abandoning its trained-to-standard TPFDD process. In many other ways, however, the two contingencies were similar on the logistics front. For example, although OIF forces were 58% the size of those in DESERT STORM, proportionally the percentage of the total force deployed at 12% was nearly the same considering the US military was much smaller in its post-Cold War state.⁴⁵ Similarly, while the logistic effort in the first Gulf War was marveled at, the effort in OIF can be considered equally outstanding and vital to the outcome. As an example, GAO reports that of the \$28.1 billion obligated to DOD through July 2003, \$19.1 billion or 68% of the funds obligated were used for operating support or transportation costs.⁴⁶ Clearly, logistics was the backbone of the fight as it was in DESERT STORM.

More importantly, OIF combat operations lasted longer than DESERT STORM and sustainment is still a vital part of the campaign a year after the end of major combat operations. Also of note, the OIF supply lines were more spread out and longer than the logistical challenge in 1991 as they stretched from Kuwait 550 km deep into the country to Baghdad and beyond.⁴⁷ So from a logistical standpoint, the OIF effort was remarkable in its ability to deploy and sustain a major US combat force as it was in the first Gulf War. But, as mentioned, the similarities are not exact. A notable difference between the two deployments is the a conscious decision by the Secretary of Defense and senior military leaders to move away from a TPFDD process and resort to a Request for Forces structure to deploy. Like the TPFDD, the RFF process deployed the

⁴⁴ United States General Accounting Office, *Defense Logistics*, GAO-04-305R (Washington DC: U.S. Government Printing Office, 2003), 12.

⁴⁵ US Joint Forces Command, *Joint Lessons Learned: Operation IRAQI FREEDOM Major Combat Operations*, Coordinating Draft, 1 March 2004, 10.

⁴⁶ GAO-04-305R, 12.

necessary forces to support the combatant commander's war aims, but *external* and *internal* factors of the process impeded the deployment affecting decisions and capabilities in the fight. Ultimately, the RFF process can be considered successful from a macro perspective, but these impediments seriously impacted combat operations. Again, the US deployment practices drove the flexibility for the employment of combat forces.

The difference between the TPFDD and RFF processes is significant. In a TPFDD process, planners from the supporting combatant command and supporting commands generate a plan of deployments matched against apportioned forces detailed in an operations plan or operational order if an actual contingency exists. The TPFDD intends to sequence forces over time and the data is entered into the JOPES system so worldwide users can view, prepare, and add inputs as necessary. In DESERT STORM, the TPFDD initially gave visibility to the sequence of deployments for three days out eventually detailing a plan of deployment validated a week ahead of time. Generally speaking, the Secretary of Defense signs off on the initial TPFDD and this gives legal authority for the military to execute the planned movement of forces.

In contrast, the RFF process is more ad hoc in nature. The combatant command analyzes its needs and literally requests the forces through the appropriate channels ultimately awaiting the Secretary of Defense to sign off the deployment of various units and force capabilities. While the Secretary of Defense may sign off on *one* TPFDD, he or she may have to sign off on multiple RFF deployments. In theory, the RFF process allows a regional combatant commander to pick a few capabilities at a time as a contingency unfolds. Conversely, the TPFDD is one document with a pre-selected set of capabilities that starts executing in total once the execute order is issued. This stark difference shows the positive and flexible benefits of an RFF process over a TPFDD that may have been constructed for an operations plan prior to knowing a contingency's particulars. As expected, the top down RFF approach when contrasted to the bottom up TPFDD

⁴⁷ Ibid.

process leads to differences in deployment execution, some positive and some less than beneficial.

Multiple reasons are afforded explaining why the traditional TPFDD was abandoned in OIF in favor of the RFF process. One reason recorded by US Joint Forces Command was that the TPFDD could not be flexible enough for the brewing crisis with Iraq in 2002 and 2003.

Specifically, US Joint Forces Command, collecting data per direction of the Chairman Joint Chiefs of Staff on OIF, gave one insight on the decision to abandon the TPFDD process:

After 9-11, CENTCOM had used Request For Forces for deployments to support ENDURING FREEDOM, SOUTHERN WATCH, and DESERT SPRING. This process was responsive. TPFDD refinement was recognized as a lengthy, complicated, manpower-intensive process. Developing a new TPFDD after more than 118,000 people had been deployed to CENTCOM AOR under the RFF-DEPORD process was estimated to require more time than was believed to be available. With the window for a decision to commence operations narrowing, there appeared to be too little time remaining to convene another TPFDD refinement conference to address these issues. Moreover, the people who would have to participate were by then fully engaged in executing the deployment of those already requested by a CENTCOM Request For Forces (RFF). The Joint Staff therefore suggested the TPFDD refinement process might have to be abandoned. By 1 February 2003, CENTCOM knew that would be the case, and the Chairman issued a message to that effect on 7 February.⁴⁸

Other post-OIF commentary suggests political reasons at the Secretary of Defense-level led to the decision to use the RFF deployment process. Noted Washington Post author Bob Woodward inside his book *Plan of Attack* writes that OIF's initial TPFDD planned to use 300,000 troops in accordance with the operational plan, an excessive number according to the Office of Secretary Defense (OSD). Woodward explains: "But the notifications, the assembling of ships and aircraft, the movement of the initial forces all would telegraph to reporters and soon the world that war was coming."⁴⁹ The Secretary of Defense asked the military to get the necessary notifications, but not use 300,000 or anything close that number of troops. In fact, Secretary Rumsfeld rebuked CENTCOM commander General Tommy Franks: "By the way did

⁴⁸ *Joint Lessons Learned*, 25.

⁴⁹ Bob Woodward, *Plan of Attack* (New York: Simon & Schuster), 233.

you notice that the holidays are coming up? We're going to affect the lives of 300,000 people and nobody appears to me to have thought about that."⁵⁰ Woodward further relates the gradual manner the traditional TPFDD process evolved to a more political palatable RFF process:

Rumsfeld believed he was lifting up a big rock and finding a big process problem with the entire department that had to be fixed on the fly. The deployment plans were designed like a switch with only an "on" and an "off." There was nothing in between. "We're going to dribble this out slowly," he said, "so that it's enough to keep the pressure on for the diplomacy but not so much as to discredit the diplomacy." He didn't want anyone to be able to say, "Well, you have already made up your mind." So the diplomacy piece was the issue, not the transportation piece. Franks said the war would be over sooner if he could get the forces there quickly. "If you get the guys identified right now," the general said, "I can truly guarantee you I can compress the major combat phase." It wasn't going to happen that way, Rumsfeld said. He proposed they break the deployment into modules or pieces. Soon he was examining the TPFDD himself, dipping in and out, finding the pieces or units he wanted. He was going to redesign the switch, transform it into something like a dimmer switch, with gradual, less noticeable deployments.⁵¹

Rumsfeld maintained: "The fact that it took the deployment process and disaggregated it to support diplomacy was never understood out there, and I didn't want to say that's what we were doing so we sat here and took the hit."⁵²

Some of the hits came from notable retired military officers. Retired General Barry R. McCaffrey, for example, requested the Secretary of Defense office "stop meddling in the deployment process and let Army commanders have the units they believed they needed to fight the war."⁵³ Anthony H. Cordesman, Center for Strategic and International Studies, agrees that Rumsfeld delayed calling up guard and reserve units and deploying units for political reasons as the Bush administration searched for a diplomatic end to the crisis. Rumsfeld's aides countered that the normal deployment process was not warranted: "There were people with antiquated

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Vernon Loeb, "Rumsfeld Faulted For Troop Dilution," *Washington Post*, 30 March 2003, A19.

thinking and processes who wanted to deploy people and wreck their lives and move them even before we knew there was going to a war—because it easier that way.”⁵⁴



Figure 4: The 1190th Deployment Support Brigade Team conducted the first major rail load since Desert Storm. The 1190th loaded about 50 rail cars with more than 150 pieces of equipment from the 1485th Transportation Company (*mobilized reserve unit*) to support Operation Iraqi Freedom.

Either perspective, whether it be that the military chose to evolve the process or Rumsfeld forced the issue, is still under debate by historians. However, clearly the well-structured TPFDD deployment process scripted in DESERT STORM was abandoned in the winter of 2002 and only the deployment priorities suggested in the six planning conferences were retained to serve as initial fodder for another method of deploying forces.⁵⁵

RFF and OPERATION IRAQI FREEDOM

“Despite more than a decade of [TPFDD] experience with deployments since Operation DESERT SHIELD in 1991, the process prescribed by the Joint Operation Planning and Execution System again posed problems during planning for OIF. Although after-action reviews of past contingencies pointed out problems with the joint deployment process, requisite improvements have proven elusive.”⁵⁶

OIF Joint Lessons Learned

⁵⁴ Ibid.

Despite abandoning the trained-for-standard TPFDD process, the RFF process was able to deploy a significant force package to the Arabian peninsula in order to commence offensive operations against Iraq. In total, RFF must be measured a success in being able to accomplish the combatant commander's objectives. In fact, although less material was sent vis a vis DESERT SHIELD, the transportation assets were far more efficient and accomplished a tremendous task in



Figure 5: Sealift as in DESERT STORM provided the vast bulk of OIF cargo. Pictured here are port operations at Ash Shu'abiyah, Kuwait.

less time. According to the USTRANSCOM Research Center, in three months time from January through March 2003, 181,620 troops and 505,990 short tons of cargo were moved by both

⁵⁵ Lt Col Thomas Reilly, OIF Deputy C-5, CFLCC, interview by Major Gregory A. Weisler, CFLCC History Group, Camp Doha, Kuwait, 15 May 2003, transcript CALL Archives, Ft Leavenworth, KS.

⁵⁶ *Joint Lessons Learned*, 25.

USTRANSCOM air and sea assets.⁵⁷ Yet, because of improvements in the manner units deployed including less weight for each person deploying as well as more efficient transportation assets, lift used for each person was 40% less than that in the first conflict. In total, the overall lift needed to fight OIF was only 23% of the lift needed to prepare for DESERT STORM.⁵⁸

Logistics, like in the first desert war, set the stage for a major combat operation success. Intense air and ground operations took place for 43 days contrasted to the fact that ground operations occurred for only four days in 1991.⁵⁹ More importantly, the OIF movement of supplies from the rear to the front was extensive as combat forces required resupply along two major arteries deep into the large country, as well as a major resupply effort along an isolated northern front. There was even a less talked about minor resupply effort for special operations in the western desert. From an overall objective assessment, the RFF process provided the forces necessary to accomplish the initial combat objectives in no uncertain terms. Saddam Hussein's regime was toppled and US combat forces transitioned to post combat operations in less than three month's time. But, despite the overall success, *internal* and *external* factors arose which hindered the operation much as issues and complications arose in the first desert deployment. As was the case in 1991, many of the problems can be tied to the structure of the deployment this time via the RFF process.

THE RFF PROCESS IN THE AFTERMATH OF OIF

“The less comprehensive RFF-DEPORD process responded to the need for flexibility in dealing with these issues, but proved difficult in execution and was achieved simply by brute force and inefficient workarounds.”⁶⁰

OIF Joint Lessons Learned

⁵⁷ Draft Manuscript *USTRANSCOM OIF Historical Study* (United States Transportation Command: United States Transportation Command Research Center, excerpted 19 October 2004).

⁵⁸ *Joint Lessons Learned*, 10.

⁵⁹ *Joint Lessons Learned*, 10-1.

⁶⁰ *Joint Lessons Learned*, 26.

The perceived flexibility in the structure of the RFF process actually resulted in several unanticipated consequences markedly influencing the logistics flow through the course of the buildup. First, while appearing to be unwieldy, the TPFDD when signed off for execution is considered to be a deployment order.⁶¹ Thus, the entire flow of massive is authorized to deploy as necessary when lift is made available. On the contrary, the RFF force package in attempting to minimize the numbers and political impact of the deployment, broke the lift up into force packages. Each of the force packages had to be signed off on a deployment order by the Secretary of Defense so he could manage the overall process. Initially, the forces packages were very large and came in large part from the initial TPFDD developed in six joint military planning conferences.⁶² However, as the deployment accelerated, planners made changes to the force packages per Secretary of Defense direction or as force capabilities were added and subtracted from the force flow by the military leadership. These changes had to be staffed up through OSD and added to another deployment order.⁶³ So, in actuality, the need for multiple deployment orders actually slowed the process down and made the deployment less responsive to a traditional TPFDD's *one*-deployment order. Movement could thus not be made on the fly as perhaps envisioned by the RFF, but rather depended on the bureaucratic staffing of paperwork through appropriate OSD channels.

As an example, for operational reasons, CENTCOM would request some units to flow later and it then became very difficult to integrate these units back into the flow as commanders awaited approval from higher headquarters to begin deployment preparation. This ebb and flow of building small forces packages and awaiting deployment orders significantly impacted the scheduling of airlift and sealift. *On Point*, the Center for Army Lessons Learned examination of OIF, acknowledged that “the careful, detailed management of the lift assets could not readily

⁶¹ Cmdr Michael Steed, USTRANSCOM J-3 Requirements, TCJ3R, telephone interview by author, 29 September 2004.

⁶² Reilly interview.

adjust to meet the relatively rapid adjustments to the deployment timelines.”⁶⁴ The report further notes the “force flow never caught up with the operational requirements.”⁶⁵

For several reasons, combat service support elements found themselves falling further back into the force flow, which as expected, would have a profound impact on support operations in the theater. The fact that many of the combat service support elements were made up of reserve forces is a principle reason they were shifted back in the flow. Major General J.D. Thurman, Coalition Forces Land Component Commander (CFLCC) C-3, explained that the reluctance to mobilize reserve forces prior to Christmas hampered his ability to establish good command and control prior to the operation’s start. Indeed, the 377th Theater Support Command, a unit composed of 75% to 80% reserve forces, was responsible for establishing a significant communication net. Yet, due to reserve mobilization delays, this significant logistical force multiplier was not fully in place until March just as major combat operations commenced.⁶⁶ Thurman further states: “I’ve got great scars on me [from] getting Reserve soldiers over here. I’ve literally had to go by name on the 377th HQs to get people approved to come over here.”⁶⁷ Lt Colonel Thomas Reilly, Deputy C-5 CFLCC, echoed these sentiments noting that planners needed to defend their request for units with reserve forces.⁶⁸ Naturally the answer is often tied to former Army Chief of Staff General Creighton Abraham's decision to integrate reserve forces in the critical combat support structure to force the nation’s leadership to attempt to garner some form of public support prior to hostilities. Clearly, this active-reserve Army mix, designed in the wake of the Vietnam conflict, remains very relevant yet contentious in today’s force structure.⁶⁹

⁶³ Ibid.

⁶⁴ Gregory Fontenot, E.J. Degen, and David Tohn, *On Point* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 74.

⁶⁵ Ibid.

⁶⁶ Major General James Thurman, OIF C-3, CFLCC, interview by Lt Col Steven D. Holcomb, CFLCC History Group, Camp Doha, Kuwait, 27 May 2003, transcript CALL Archives, Ft Leavenworth, KS.

⁶⁷ Ibid., 12.

⁶⁸ Reilly interview.

⁶⁹ Ibid.

In hindsight, the issue of using a RFF process to help minimize the call-up of reserves ended up penalizing these forces and reaction time once they were needed. Indeed, the fact that the Secretary of Defense was signing multiple deployment orders rather than *one* order in the form of the TPFDD slowed the process down as each deployment order forced coordination time between the services, the Joint Staff, and OSD. The GAO reports Secretary Rumsfeld signed 246



Figure 6: Long lines of equipment, arrayed by type of equipment, ready for pick-up by primarily active duty units prior to deploying into Iraq.

deployment orders to mobilize 280,000 reservists from 11 September 2001 to 21 May 2003!

During the first Gulf War, only *10 deployment orders* were coordinated among all the agencies to mobilize 220,000 reservists. The large number of OIF deployment orders requiring bureaucratic coordination obviously required more time. For example, during the critical deployment phase from February through June 2002, an independent contractor study found that the average time lapse from the CENTCOM's Request for Forces order to an actual deployment

order was 18 to 19 days.⁷⁰ In this two to three week delay time, reserve units such as elements of the Theater Support Command were delayed in their call-up and thus were often delayed further into the flow. Many other combat support units faced a similar problem.

The effects of a skeleton combat support logistics structure was quickly apparent on several fronts as combat commenced. For example, *On Point's* analysis of the logistic portion of the campaign notes that OIF operations were hampered by fuel distribution problems, lack of food reserves for soldiers, medical supply scarcities, and ammunition shortages to name a few.⁷¹ Major General David Kratzer, 377th Theater Support Commander, noted that the delay in flowing the logistics enablers contributed to many of the logistics problems in theater, again caused by the decision to not mobilize the reserve and National Guard units until after 25 December 2002.⁷² In addition, the delay in logistic enablers prevented an adequate number of trucks reaching the theater to aid in theater distribution tasks. As a consequence, the Marines were forced to contract Kuwait trucks until the Army trucks made it into theater in later force packages.⁷³ More significantly, Reilly pointedly explains that “many of the problems that we had in executing this operation arose as the direct result of the OSD-mandated system of RFF. The perceived threat to the lines of communication resulted from the fact that we did not have the force necessary to both push support forward and to secure the [lines of communications] at the same time.”⁷⁴ In total, each of these issues in themselves could prove critical to US military operations. To overcome these vulnerabilities, *On Point* notes that logistics must be deployed early enough to prepare an

⁷⁰United States General Accounting Office, *Military Personnel: DOD Actions Needed to Improve the Efficiency of Mobilizations for Reserve Forces*, GAO-03-921 (Washington DC: U.S. Government Printing Office, 2003), 18.

⁷¹ Fontenot, 408-9.

⁷² Major General David Kratzer, After Action report, 377th TSC oral presentation to CGSC, Fort Leavenworth, KS, 16 December 2003.

⁷³ Fontenot, 74.

⁷⁴ Reilly interview.

adequate distribution system—a lesson revisited from Lt General Pagonis’ DESERT STORM advice.⁷⁵

As discussed in the DESERT STORM case study, General Schwarzkopf made a calculated decision to delay support functions from deploying as he decided to put immediate deterrent combat power on the ground. For OIF, the decision was not an intentional one by the theater commanders, but rather evolved largely because of the micro-management of how the force packages were developed with minimal time horizons and political considerations. The concern on calling up reserve forces further retarded the deployment effort. In reflecting back on how the deployment unfolded, the Secretary of Defense has recognized this shortfall and informed his staff that the “balance of capabilities in the active and Reserve components is not the best for the future.”⁷⁶ Until the reserve call-up realities can be addressed, he noted that involuntary mobilizations of reserve should not be planned for in the first 15 days of a rapid response operation.⁷⁷ Ultimately, for the military to deploy the vital theater-opening units in the first deployment, it needs to migrate the combat support capability away from the reserve force and primarily to the active force.

Beyond the contentious reserve issue, the RFF structure allowed very important force elements to be lost in the shuffle as priorities and political decisions ebbed and flowed with each force module. For example, current stability and support operations in Iraq point to the importance of Army Civil Affairs (CA) units, but interviews with CA planners demonstrate how the RFF process neglected them in the deployment. Specifically, the initial TPFDD had 144 civil affairs soldiers arriving in theater only three weeks after mobilization to augment a skeletal CA element already in place. However, when the TPFDD was discarded, the CA planners saw less priority for their units and initiated emergency RFFs to no avail. Thus, the RFF process, instead

⁷⁵ Fontenot, 411.

⁷⁶ Ibid.

⁷⁷ Ibid.

of providing more responsiveness, created more inefficiency and in the case of vital civil affairs, caused resources to lose priority when planning conferences were not used to meter out competing priorities.⁷⁸

That being said, other packages saw their priority quickly elevated. For example, theater ballistic missile (TBM) defense systems like Patriot systems, important in the first Gulf War, suddenly found an accelerated deployment schedule. Major Kimberly Bodoh, 32 AAMDC liaison officer to the CFLCC, noted that the RFF process moved her TBM defense forces quicker than had been planned for in the original OIF TPFDD. Still, she notes that the TBM *combat support* packages *were not* accelerated in the RFF flow, as was the case with many of the combat support packages.⁷⁹ The RFF process turned into a very, fluid process, but lacked the overall guided deployment process that a TPFDD “backbone” would provide.

A further consequence of this fluid reality is the need for logisticians to manage the daily, evolving deployment. Specifically, Reilly estimates a normal TPFDD process managing an OIF deployment would require approximately 30-40 personnel from CFLCC working with USTRANSCOM to manage the deployments. However, in reality, the difficulties in packaging the force modules and gaining OSD approval in reality led to 100-150 troops coordinating daily movements with USTRANSCOM, a three-fold increase. Prior to the conflict, Reilly had hoped that “employment would drive deployment.” That is, what forces were required would drive what was moved. Unfortunately, his final assessment of the OIF deployment is that “deployment approved by OSD drove employment.”⁸⁰ In other words, what showed up in the theater drove what operations commenced. The logistical tail wagged the dog perhaps more than had been

⁷⁸ Lt Col Steven Sicinski, Lt Col John Kuttas, and Maj John E. Stefula, OIF C-9 Planners, CFLCC, interview by Lt Col Dennis J. Cahill, CFLCC History Group, Camp Doha, Kuwait, 4 June 2003, transcript CALL Archives, Ft Leavenworth, KS. Sections released for use by interviewer.

⁷⁹ Maj Kimberly Bodoh, LNO to OIF CFLCC, 32 AAMDC, interview by Maj James M. Houlahan, CFLCC History Group, Camp Doha, Kuwait, 14 May 2003, transcript CALL Archives, Ft Leavenworth, KS.

⁸⁰ Reilly interview.

planned. While much as Clausewitz first opined that logistics would have a major impact on operations, it should not drive operations. In the RFF process, the complexity of normal deployment operations were compounded by a system where planners ran into the friction of scheduling a finite amount of lift against deploying active units often missing their reserve components. While DESERT STORM planners were forced to think short term because of the sudden onset of the crisis, OIF logisticians backed into a short-term time horizon as a result of the deployment's RFF structure in a system where forces were metered throughout the mobilization.

Yet, as in DESERT STORM, the OIF logistics piece did support a major military victory for OIF's major combat operations segment. General Dave McKiernan, the OIF CFLCC, noted to his logistics troops on 1 May 2003: "The truth of the matter is we did not stop operational tempo because of any class of supply, and what was accomplished was never impeded by logistics, and I think that is a remarkable story."⁸¹ But, to make it work as the OIF *Joint Lessons Learned* article concluded, logisticians at all levels and in a variety of locations used brute force and workarounds to pull it together. Similarly, as *On Point* concludes: "As in other campaigns, logistics in OIF succeeded as a consequence of sheer hard work."⁸² This lesson applied to DESERT STORM's deployment as well. Indeed, both deployments show other similarities as well as distinct differences that suggest conclusions in the manner the US should organize in its next major deployment. Are there changes in the TPFDD and RFF construct that can mitigate the sheer hard work that seems integral to make every major deployment succeed?

THE TPFDD AND RFF IN CONTRAST

"Operation Desert Shield and OIF shared a common opponent, a similar scale of effort, a similar number of days, familiar regional players, and the historical perspective of having occurred after the end of the Cold War."⁸³

Joint Lessons Learned

⁸¹ Fontenot, 414

⁸² Ibid., 409.

⁸³ *Joint Lessons Learned*, 9.

As the US Joint Forces Command notes early on in its report on OIF, the first Gulf War and second Gulf War twelve years later were similar in many ways. Obviously, anytime historical analogies are made, the issues raised can be spurious and the conclusions can be made to fit the historical example rather than be drawn from the lessons of history. However, in this instance, the many similarities are such that the comparison of the deployment structure can be compared to evaluate the effectiveness of the two and draw some conclusions to follow in future



Figure 7: Like Desert Storm, in the end, the OIF deployments relied on people, cargo, and the means to get them there. This picture of an airman unloading cargo could be from either contingency and still tell the same story that logistics is nine-tenths of any war effort.

major contingency deployments. In the DESERT STORM example, major US combat and support forces deployed under a TPFDD from August to November 1990 with another surge deployment from November through January. In the OIF example, US combat forces deployed under RFF auspices from January through March 2003 with continuing deployments once the war

campaign was underway. In this context, the two deployment styles can be compared against a variety of movement criteria.

From a strategic perspective, three broad areas of comparison help analyze a deployment. Author Scott Conrad in his critical examination of moving US forces notes the three primary variables in movement are capabilities (means of transport), requirements (forces moved), and time.⁸⁴ When reviewing the TPFDD and RFF process in macro, the criterion of means of transport seems minimal in differentiating the two processes. Both OIF and the first Gulf deployment relied on air and ship to move the forces. Although lift was more efficient in 2003 particularly in air transportation, lift in general was used in the same manner. More lift, both sea and air, would help any deployment and provide more flexibility to planners in moving the force, but does little to discriminate between the two processes. However, the remaining two criteria, requirements and time, do provide a means to compare the two deployment perspectives.

First, requirements or simply the supplies moved are best viewed against the Army *FM 3-0 Operations* criteria for reviewing logistics: responsive, deployable, agile, versatile, lethal, survivable, and sustainable. The *FM 3-0* definitions are straight forward. Specifically, *FM 3-0* defines logistics responsiveness as being the right support at the right time. Next, deployable forces are of the type to move with speed and force from stateside locations to the theater. Third, logistics agility allows for force requirements to match what is demanded by commander in the field as the situation dictates while versatile forces likewise allow those agile forces to re-organize and adapt to changing missions. Lethal forces of course generate combat power and contribute to the fight and survivable forces ensures those forces are around to fight another day through maximum protection to Army forces. Finally, sustainable is defined in *FM 3-0* as the ability to keep the combat forces replenished. Taken together, these seven *FM 3-0* characteristics

⁸⁴ Conrad, 40.

of a strategic responsive force show the breadth and depth of issues available to compare the forces moved using the TPFDD process in DESERT STORM and the RFF process in OIF.⁸⁵

In reflecting on the two case studies, responsiveness is a criterion critically important for an expeditionary-based army. From a holistic perspective, it is a criterion that seems most suited to the RFF process. As it requires the right Army forces to deploy at the right time to the right place, a process like RFF where commanders can tailor forces packages individually as the contingency unfolds would seem to make the process tailorable to particular contingencies. However, the TPFDD process with adequate planning can create a time-phased deployment adequate to the demands of the combatant commander as well. Recently, for example, the OIF planning team had six TPFDD planning conferences before abandoning in favor of the RFF during the winter of 2002.⁸⁶ In these intense planning sessions, planners created a flow of forces suited for the needs of the CENTCOM combatant commander. From the macro perspective, both types of deployments can be responsive in the theoretical framework provided proper pre-planning is accomplished. The TPFDD responsiveness then becomes limited to proper pre-planning time while the responsiveness of the RFF depended on the efficiency of the bureaucratic approval process. Operation ENDURING FREEDOM showed the RFF process to be particularly responsive where smaller force packages were less inclined to be tied up in the bureaucratic approval process.⁸⁷

The deployable criterion also seems well-suited to both the TPFDD and RFF process. However, from the macro perspective, the TPFDD process as a long range planning tool is well suited to keep forces deployable. It organizes people and equipment to move logistics from the port to the foxhole. The RFF process can similarly move equipment from the port to the foxhole. But, OIF demonstrated that the ad hoc and near-term planning process tended to take the process

⁸⁵ Department of the Army, *FM 3-0, Operations* (Washington DC: Government Printing Office, 14 June 2001), 3-1-3-4.

⁸⁶ Fontenot, 74.

from a macro to more micro examination. Part of this near-term perspective cuts down on the time allotted to deploy particularly when a reserve component notifications were delayed as occurred in OIF. For example, in one instance, a reserve unit leaned forward to speed up the deployment process expecting the order to deploy even to the point of loading their equipment on ships in the pre-OIF build-up. Unexpectedly, the Secretary of Defense did not approve the unit's deployment and the unit was forced to send people to Kuwait to catch their equipment and put it back on ships for a return to the US.⁸⁸ Although past TPFDD operations do show certain deployability inefficiencies comparable to this RFF example, the TPFDD overall seems better suited in its ability to plan ahead thus better serving a port to foxhole deployment mentality.

A third characteristic in moving forces is their agility. As defined previously, agile forces are sustainable and mobile enough to accomplish the mission.⁸⁹ The recently released 2004 *National Military Strategy* defines agility as a core strategic principle necessary to contend with the principal characteristic of uncertainty in the current security environment.⁹⁰ Again a forward-thinking TPFDD would theoretically provide the support necessary to keep agile forces by providing a template to balance lift with competing mission requirements. Like the deployable criteria, the TPFDD's macro perspective would account for a phased deployment with adequate combat service support. An RFF could also support an agile requirement, but its tendency to move with fluid, deployable force packages may in fact create more friction when matching available lift requirements to changing force requirements. Clearly, combat service support and other logistics enablers keep combat forces agile and is best incorporated into a force flow in a calculated and measured TPFDD process.

⁸⁷ *Joint Lessons Learned*, 25.

⁸⁸ Colonel Kevin Benson, C-5 Director, CFLCC, interview by author, Ft Leavenworth, KS, 5 November 2004. Col Benson currently serves as Director, School of Advanced Military Studies, Ft Leavenworth, KS.

⁸⁹ *FM 3-0*, 3-3.

⁹⁰ *National Military Strategy of the United States of America 2004* (Washington DC: Department of Defense, 2004), 6.

A fourth characteristic of forces moved is their versatility. This criterion in its purpose to tailor packages efficiently defines the RFF process. As forces packages are continually updated prior to execution, the forces are indeed versatile to meet the combatant commander's immediate requests. The TPFDD provides for a versatile set of forces as well, but its phased process may not be as receptive to meeting any near-term changes without risking upsetting the planned lift requirements and long range plans. In fact, Lt General Pagonis recalls that his TPFDD experience did in fact limit his versatility. He notes: "Situations change constantly, and one must have the capability to adjust accordingly...After a few rounds of 'massaging' the deployment sequence, I found that the people I was requesting on Day One were not necessarily the people I need most when they arrived on Day Six."⁹¹ He further relates: "[B]ut even my relatively broad view didn't encompass all the effects of my requests. After a few forays into tailoring the TPFDD, I decided to back off."⁹² The versatility of the force packages is made easier in the RFF process where smaller pieces of the deployment puzzle are put together. While a well-planned TPFDD can mimic RFF's versatility, a large deployment TPFDD sequence as Pagonis' example suggests does make it difficult to correctly adjust as the situation changes.

The fifth characteristic is lethality. Both processes have been effective in generating appropriate combat power whether it be for DESERT STORM or OIF. As such, this variable is equally well served by both deployment perspectives. Moving to the sixth characteristic, then, survivability is also not well differentiated between the TPFDD and RFF process. Both deployment processes, if planned correctly, would integrate sufficient force protection assets to protect the forces on the battlefield. That is, both processes provide for survivability equally if the planners keep force protection as a vital part of any deploying force. In other words, the differences in the deployment structure would not have any bearing on the planner's prioritization of force protection assets.

⁹¹ Pagonis, 125.

The final force criterion is sustainability which is fundamental to strategic responsiveness. Again both deployment structures, like versatility and lethality, seem to equally sustain combat power. Any type of contingency operation must be sustained if the US is to remain strategically responsive. The difficulty in deployment planning is accounting for the logistic necessities which often seem less important in the immediate need to deploy combat power. This difficulty was displayed in both the DESERT STORM and OIF where the logistics to support the force was delayed in the force flow. In the first case, General Schwarzkopf made a conscious decision to structure the TPFDD to phase combat support forces after a significant compliment of combat power made it into theater. After the initial deployment of combat power, the combat support force arrived in theater to accomplish its support mission. Normal TPFDD deployments, if planned correctly, will account for a proper metering of combat power and combat support forces. Likewise, the OIF RFF process benched its deployment off an initial TPFDD which transformed over time as CFLCC planners changed the flow as the situation dictated. With these flow changes, *On Point* noted several instances where the combat support forces were shifted back in the deployment.⁹³ But, these changes were consciously made because of conflicting priorities coupled to the external factors such as the delayed reserve force mobilizations. The RFF structure with its inherent flexibility does typically allow the force flow to more readily change as each force package is reviewed. In the end, with adequate planning, sustainability should be equally well served by both the TPFDD and RFF process.

Taken together then, the two case studies showed a mixed picture when compared against the *FM 3-0* strategic responsiveness criteria. In fact, the review of the criteria is subjective and based on the two case studies as opposed to a theoretical deployment. The matrix below summarizes the *FM 3-0* comparison:

⁹² Ibid.

⁹³ Fontenot, 74.

Attributes of Strategically Responsive Forces

	Responsive	Deployable	Agile	Versatile	Lethal	Survivable	Sustainable
ODS TPFDD	Limited	Yes	Yes	Limited	Yes	Yes	Yes
OIF RFF	Yes	Limited	Limited	Yes	Yes	Yes	Yes

Figure 8

Thus, as shown above, both deployment processes generally support the US needs to be strategically responsive. That being said, while each process has answered the US military’s needs to deploy its forces, the issues addressed earlier in this monograph show that the forces did face obstacles in moving to the Middle East and both practices were less than perfect.

To review then, a deploying force can be measured against means of transport which provides little differentiation between the two desert deployments. Next, the forces moved can be compared against seven strategic responsiveness characteristics which do highlight similarities and a few subtle differences between the two deployment practices as noted above. The final criterion of time also shows a mixed result. Intuitively, the TPFDD is generally perceived as slower in execution and the RFF can be seen as more responsive. For example, in DESERT STORM, the forces deployed from August thru November to the point General Schwarzkopf felt he was adequately prepared to defend against further aggression. The TPFDD process took another two months to gather more offensive forces making a six month deployment in total.

For OIF, planners had anticipated 30 days of preparatory movement and another sixty days of dedicated movement prior to attack in a TPFDD scenario. When the formal TPFDD was abandoned, the RFF process was unable to use the 30 days of preparatory time as national decision makers slowed the notification process over the December 2002 holiday timeframe. Lt Colonel Reilly remembers that ultimately OIF forces started flowing at the end of January 2003 giving near sixty days of deployment prior to the 19 March first day of the attack.⁹⁴ The RFF

⁹⁴ Reilly interview.

process turned into a bureaucratic lengthy process as planners attempted to methodically gain approval on a number of force packages. Reilly notes that his planners were forced to answer questions for every force package such as why are you asking for reserve components and why are you asking for *so many* reserve component forces.⁹⁵ Colonel Kevin Benson, CFLCC C-5 Director, explains that his planners were slowed in the process of building follow-on force packages as they tried to anticipate and respond to issues generated in the first force package submittals. Even if problems were not immediately apparent, planners tried to anticipate problems to ensure a smooth approval process. In doing so, the initial bureaucratic staffing of the products was excessive pulling CFLCC war planners from accomplishing other operational war planning issues. Indeed, Colonel Benson recalls it took all of his 60 planners plus an additional five planners outside his division over 10 days to get a *single* RFF request done.⁹⁶

In the final analysis, the time required to deploy obviously depends on a number of variables that will change from situation to situation. The seemingly cumbersome DESERT STORM TPFDD process was more responsive because it did not have the bureaucratic obstacles that the RFF process faced in 2003. Reilly reflected that had the OIF TPFDD initially flowed as projected, it may have provided the forces needed in the same amount of time as the RFF process: “We could have had a lot more forces on the ground if [Rumsfeld] had just trusted his planners, trusted his service chiefs, trusted the Joint Staff, and let us deploy. The campaign probably would have gone quicker. We probably would have had more control of Iraq than we have today.”⁹⁷

In summary, Reilly comments underscore a reality that cuts across both the first Gulf War conflict and the latest OIF deployment—the nature of the deployment dramatically affects the follow-on campaign. In other words, as stated earlier, deployment drives employment of combat forces. Forces moved, means of transport, and time all must be synched to make

⁹⁵ Ibid., 6.

⁹⁶ Benson interview.

⁹⁷ Reilly interview.

deployment an important *first step* rather than a *determining step*. Forces must be strategically responsive by being responsive, deployable, agile, versatile, lethal, survivable, and sustainable. Means of transport (airlift and sealift) must continue to increase in number and efficiency to give planners more options and time is always an issue when seeking to make deployments better.

One assertion seems evident in reviewing these two large deployments in the last decade. Both the traditional TPFDD process and RFF process yielded positive results as well as a series of different problems affecting the strategic responsiveness of the forces and consequently the time involved to move them. The two processes are different in how they deploy forces, but the effects were the same as each were overall successful in moving a significant force capability. The limiting factors for each process in the end affected the fight on the ground and mitigating these factors is the challenge for the next deployment. As the US military remains engaged in expeditionary operations, the degree it is able to deploy remains paramount. Ideally employment or the requirements on the battlefield should drive deployment, not the reverse as is occurring. What then is the way ahead to simplify the complex deployment activity so that it becomes the *first step* not the *determining one*?

THE WAY FORWARD: TO TPFDD OR NOT TO TPFDD?

“The Way Forward: Adapt or develop deployment planning and execution tools and processes that provide for near real-time modification of deployment plans, to accommodate late changes at the strategic, operational, and tactical level.”⁹⁸

Joint Lessons Learned

Joint Forces Command analysis of the OIF deployment noted that key issues for a better way forward involved the process and recommended changes for the entire deployment system. Indeed, the JFCOM analysis of RFF was blunt: it “proved difficult in execution and was achieved simply by brute force and inefficient workarounds.”⁹⁹ To improve the process, JFCOM recommended a review of existing collaborative planning and visualization tools. These tools

⁹⁸ *Joint Lessons Learned*, 26.

should allow for shared visibility of changes as they occur, common visualization of the deployment process at all echelons of command, and timely warning of changes to forces requested allowing an adjustment to forces sent.¹⁰⁰ None of these changes affect TPFDD or RFF procedures, but rather recommends a change to the tools within the deployment architecture to make deployment planning more responsive and thus allow *employment to drive deployment*. Recently, the development of new tools of deployment planning began in earnest in a new initiative within the Department of Defense sure to have an enormous and positive impact on deployment practices, that of adaptive planning.

Adaptive planning is a Secretary of Defense and Joint Staff J-7 initiative begun in August 2003 to compress deliberate and crisis planning models to one responsive and comprehensive process. The end state to be developed by 2008 would create detailed plans that are capabilities-based and retain a degree of flexibility through a menu of flexible options. This proposed change to the lengthy deliberate planning model would translate to the deployment process by fielding new tools, products, and people.¹⁰¹ In short, the adaptive planning initiative is a mindset that has lofty goals spelled out in Defense Planning Guidance 2004 to accelerate the Deliberate Planning Process to “greatly expedite development of alternative Course of Action Time Phased Force Deployment Data in support of war plans.”¹⁰² Adaptive planning looks to produce all deliberate plans in one year or less and also enable rapid revision of plans as conditions warrant. If successful, the hybrid deployment process would promise the flexibility of the RFF process with the detailed organization of the TPFDD through new tools, people, and products.

For instance, a proposed new powerful tool to help with adaptive planning is a robust software suite of web-enabled “portal” applications currently under development known as

⁹⁹ Ibid.

¹⁰⁰ Ibid.

¹⁰¹ *Adaptive Planning* PowerPoint, US Army War College Planning Faculty Symposium, presented by Colonel A. Johnson, Chief, Joint Operational War Plans Division, JCS, 17 June 2004.

Collaborative Force Analysis, Sustainment, and Transportation (CFAST). This new suite of software is a Windows-based planning tool with desktop access via “native” SIPRNET connections. It provides rapid force generation based on a combatant commander’s requirements. It then has the capability to create lift requirements and conduct transportation feasibility based on constrained lift apportionment to create a TPFDD. The connectivity of the software with multiple users and ease of use reduces the need for multiple planning conferences normally associated with TPFDD development. All work in the CFAST portal is done in a collaborative environment connecting the combatant command, services, and other interested parties in one large internet-linked working group.¹⁰³

In addition to CFAST’s promise of connectivity, it shows a potential for rapid evolution as compared to the JOPES architecture, which has improved only incrementally over time. Indeed, CFAST hardware/software programs have fielded three newer versions of CFAST within the past 24 months proving to be a capable tool in DOD’s effort to simplify and transform the complex deployment activity.¹⁰⁴ USPACOM has been directed to be the operational manager for the program and its technological capabilities demonstrate a rapid spiral development potential. As it continues to be developed, CFAST will continue to work within the JOPES environment as it does not have an active connection to any validation or execution system. CFAST program managers point out that new programs and connections to service feeder systems will allow execution directly from the CFAST portal by October 2005 making the JOPES environment less crucial.¹⁰⁵

¹⁰² *Adaptive Planning & CFAST In Progress Report* PowerPoint, US Pacific Command, presented by Lt Col Larry Juhl, PACOM J543, November 2004.

¹⁰³ *PACAF DPC Adaptive Planning & CFAST* Power Point, US Pacific Command, presented by Lt Col Larry Juhl, PACOM J543, October 2004.

¹⁰⁴ Lt Col Larry Juhl, “Collaborative Force Analysis, Sustainment, and Transportation” Information Paper, prepared for US Pacific Command, 2 November 2004.

¹⁰⁵ Lt Col Larry Juhl, USPACOM J543, JOPES Functional Manager, electronic interview by author, 5 November 2004.

A second ingredient in making adaptive planning a reality is the people and their role in using the tools to simplify future deployments. Adaptive planning aims to develop a human resource strategy to better equip the joint contingency planning community with trained manpower less apt to only develop planning skills on the job thus “adding friction and time to the process.”¹⁰⁶ One of the critiques that emerged in DESERT STORM was the lack of experience among transportation planners with the new JOPES system, which handicapped the execution of the TPFDD throughout 1990 and 1991. Similarly, for OIF, the critique arose again that personnel were inexperienced using JOPES. To solve this problem, the JFCOM OIF *Joint Lessons Learned* recommended the US military consider using dedicated JOPES personnel or contract personnel who remain familiar with the mechanical process of deployment rather than rotating personnel in an out of the complicated career field as is now the case.¹⁰⁷ Commander Michael Steed, USTRANSCOM J-3 transportation expert, notes that currently there are no incentives for the “JOPEster” to remain within the JOPES environment and many active duty personnel, after learning the intricacies of the system, soon return back to other core duties.¹⁰⁸

In an attempt to remedy this problem, the Army created a Mobility Officer specialty in 1997 to provide select warrant officers the necessary skills to aid deployments. The newly evolving Army program puts these new mobility officers in ten active divisions and two Stryker Brigade Combat Teams to act as the “proven expert” for a commander during deployments.¹⁰⁹ After completing initial warrant officer training, the designated individual then completes a 19-week Mobility Officer Course at Fort Eustis, Virginia. The Army currently has 52 Mobility Officers that will eventually multiply two-fold to 109 authorized officers and be an important

¹⁰⁶ Department of Defense, *Adaptive Planning Roadmap Paper*, Final Draft, December 2004.

¹⁰⁷ *Joint Lessons Learned*, 27.

¹⁰⁸ Steed interview, 5 November 2004.

¹⁰⁹ Peter B. Everitt, "The Mobility Officer—Master of Deployment." Internet: www.usarec.army.mil/hq/warrant/download/Master%20of%20Deployment%20882A.pdf. Accessed 17 January 2005.

Army resource for deployment and redeployment issues.¹¹⁰ This new program is clearly a step in the right direction, but it creates junior mobility experts in only one branch of service. People are an important aspect in an expeditionary military and the mobility warrant officers are a core resource that could be of use throughout the entire military.

As an aside, in a telling first look at the history of the logistics profession, General Nathanael Green wrote George Washington refusing to be the first Quartermaster of the army in 1778 saying, “Nobody ever heard of a quartermaster in history.”¹¹¹ Two centuries later, Michael Gordon in his book *The General’s War* shows that the attitude toward logisticians has scarcely improved. He comments that US deployment abilities do not often improve because US military logisticians are “second class citizens” and therefore rarely receive the resources to make significant logistic improvements.¹¹² Given the importance of logistics, attitudes rewarding logisticians to remain in their profession as well as new programs like the Army’s Mobility Officer program will have strategic effects on future battlefields. Indeed, adaptive planning will be effective if experienced planners at the root of the system see the connections to make appropriate inputs for a better plan. More significantly, the promise of CFAST is its web-based simplicity with “no elaborate training requirements” that will help mitigate some of these perpetual problems of personnel turnover that have plagued execution of deployments via the complicated JOPES system.¹¹³

Adaptive planning’s third ingredient is responsive products that make possible easier deployments. Specifically, the ability of the new tools to generate quick deployment products will present decision makers with an array of deployment options giving flexibility even as course of actions are debated and transportation feasibility studies are accomplished via the new electronic tools. The products of adaptive planning will mimic the TPFDD in detail but suggest a

¹¹⁰ Ibid.

¹¹¹ Scott, 21

¹¹² Gordon, 57.

picture of capabilities with the ability to change quickly as the external situation changes. The new products will allow dynamic changes to “living plans” as opposed to plans put on the shelf too onerous to change without significant work as is currently the case.¹¹⁴ More importantly, the new “living plans” will allow multiple courses of action to be judged as transportation feasible thus giving combatant commanders and their staff more options to choose from in a crisis. The current software capabilities today make creating a TPFDD difficult, which often allows planners to only run the transportation feasibility analysis on one course of action. In a sense, this TPFDD limitation forces planning staffs to pre-select one avenue to study further at the expense of other options.¹¹⁵

Whether these new “living plans” products resemble the current TPFDD is still the question, but the need for deployment documents to be responsive to the deployment machinery while still laying down an organizational architecture for deployment matches the lessons suggested by this monograph. Lt Colonel Larry Juhl, JOPES Functional Manager USPACOM, suggests that the new software suite has the potential to be the “amazon.com” of the future, a modular experience where different tools and portals will be available to planners streamlining the products as technology allows.¹¹⁶ As new, more advanced deployment tools are introduced, the modularized CFAST suite of software will be advanced in an iterative process continually making the deployment process and all its possible second and third order of effects more predictable. The future is not now, but the adaptive planning mindset provides a backdrop where the future is nearer.

The final ingredient to making adaptive planning a reality is the process itself for merging the tools, people, and products. The question goes beyond “to TPFDD or not to TPFDD.” The

¹¹³ Juhl Information Paper, 1.

¹¹⁴ PACAF DPC Adaptive Planning & CFAST PowerPoint.

¹¹⁵ Lt Col Larry Juhl, USPACOM J543, JOPES Functional Manager, telephone interview by author, 16 December 2004.

¹¹⁶ Ibid.

TPFDD is an important vehicle to deploy forces as depicted in the case studies, but the means of responding to an emerging crisis becomes as important as the RFF discussion suggests. Adaptive planning is perhaps an underlying means to simplify the process and make the TPFDD or RFF more palatable to the transportation network. Even in 1992, a RAND report analyzing the first Gulf War logistics movement hypothesized that deployment planning needed to move beyond the “time-consuming ‘deliberate planning’ processes into realistic ‘crisis action’ training exercises.”¹¹⁷ It also noted that planners must be “taught to expect uncertainty, to initially receive less-than-accurate, less-than-complete, constantly changing information, and to expect to work initially with rough aggregate tools.”¹¹⁸ Over a decade later, the current OSD initiative on adaptive planning seems to have moved the concept from theoretical to practical by changing the mindset on planning and providing planners with more than rough, aggregate tools.

One immediate effort to capitalize on this adaptive planning environment will be aided by US Joint Force Command’s initiative to have a Standing Joint Force Headquarters in each regional command. This collection of personnel will use a technological capable infrastructure, informed people, and new tools to establish a comprehensive collaborative information environment. This new supercharged information sharing environment will allow for synchronous collaboration between CONUS transportation planners and the combatant command. Although currently under development, the Standing Joint Force Headquarters brings together command and control elements through new infrastructure, people, procedures, and tools promising to be a cornerstone of an environment where planning and agility can occur together, possibly diminishing the enormous reverberations experienced in past RFF and TPFDD operations.¹¹⁹

¹¹⁷ Kassing, 58

¹¹⁸ Stucker, 56.

¹¹⁹ Douglas K. Zimmerman, “Understanding the Standing Joint Force Headquarter,” *Military Review* (July-August 2004): 30.

Moreover, the changes in the entire deployment architecture with the infusion of new tools, people, and products will also be helped by the military's current initiatives into modularization of the force structure. The Army is leading the way introducing an aggressive transformation strategy in November 2001 to convert the Army's divisions into smaller, more lethal, and ultimately more deployable forces called the Objective Force.¹²⁰ The forces will be more deployable from two aspects. First, the Army will seek simplicity by doing away with the hierarchy of brigades, divisions, and corps to a modular construct based on units of action (UA). The UAs will be the smallest combined-arms element in the force and will be organized as a basic UA or specialized UAs for strike, reconnaissance, support and force protection. In theory, the combatant commander will request needed UAs like building blocks to construct a contingency force known as a larger Unit of Employment.¹²¹ As basic UAs are generally equivalent, planners can analyze the projected distribution of 43 to 48 UAs worldwide and decide on the best manner to arrange the "building blocks."

Second, the force structure itself will be made more deployable by the addition of lighter and more lethal weapons systems known as the Future Combat System (FCS). Modeled after the Army's new Stryker vehicle (seen as more transportable than heavy armor), the FCS is an array of up to 18 platforms centered on a common vehicle chassis to be introduced to the UA by the 2014.¹²² The GAO has estimated that the current lighter Stryker has reduced deployment requirements by almost 50 percent when compared to the Bradley and Abrams-equipped heavier units. According to the Congressional Research Service, deployability information is not

¹²⁰ Andrew Feickert, "US Army's Modular Redesign: Issues for Congress" (Congressional Research Service, The Library of Congress, 19 July 2004), 3.

¹²¹ Dr. Daniel Goure and Kenneth A. Steadman, "Medium Armor and the Transformation of the U.S. Military" (Arlington, VA: Lexington Institute), 5.

¹²² *Ibid.*, 1.

available for the UAs, but it is hoped that further reductions in deployment requirements will also occur when the FCS equipment is ultimately fielded.¹²³

The Air Force also is expanding its modularity concept, introduced through the Air and Space Expeditionary Task Force, by pre-packaging its support equipment in generic bundles. While in the past, the Air Force used 14 C-17s to send support equipment for 1,100 airman opening an expeditionary base, now the Air Force has created a support package streamlined to fit into a single C-130. The Air Force has recently created 150 of these modular support packages for future expeditionary operations.¹²⁴ While these improvements will undoubtedly lessen the deployment “headache” for transportation planners, they are no means a panacea for the deployment process. As current J-3 USTRANSCOM planner Commander Steed noted, a “UA is still a unit line number (ULN).”¹²⁵ Planners will load that ULN into their deployment computer and it will be treated in the same manner as current ULNs. Obviously, that UA ULN could be lighter thus presenting the deployment computer more options to create the same deployment effects. In the end though, the modularization of the military is but one element of the entire deployment process. While not affecting the structure in any serious consequence, the modularization initiative will create flexibility that will allow the evolving adaptive planning process to take root under perhaps fewer deployment pressures.

In sum, the practical nature of a typical large-scale deployment mimics complexity as a myriad of different forces are matched to a variety of transportation assets within space and time. The large number of expected mismatches and ripple effects from those changes cause unintended consequences, seen in all past US major deployments. Adaptive planning seeks to use new tools, educated people, and responsive products to create order from the top down in an effort to simplify and minimize the ripple effects. When changes do occur, those same tools,

¹²³ Feickert, 11.

¹²⁴ George Cahlink, “Sense-and-Respond Logistics,” *Air Force Magazine*, November 2004, 49.

¹²⁵ Steed interview.

people and products are better able to respond to the reverberations in the system mitigating and dampening further problems. Adaptive planning is not a perfect solution as it still remains theoretical in application. However, it is a “process answer” giving a new direction to the deployment imperative that always seems to be verbally emphasized in military planning, but often sees little positive improvement. Indeed, despite a decade of living with the lessons of DESERT STORM, the US military adapted a different mindset when deploying for OIF generating a series of *new* lessons. Adaptive planning could take the lessons of both contingencies and chart a new process for future success that capitalizes on the US expeditionary nature while attempting to answer the complexity that often complicates any military movement. It is an attempt to directly address JFCOM OIF *Joint Lessons Learned’s* recommendation to “adapt or develop deployment planning and execution tools and processes that provide for near real-time modification of deployment plans, to accommodate late changes at the strategic, operational, and tactical level.”¹²⁶ It moves beyond the question of to TPFDD or not to TPFDD...to an answer of a better way overall to deploy.

CONCLUSION AND RECOMMENDATION

“We shape our buildings; thereafter they shape us.”¹²⁷

Sir Winston Churchill

To answer the monograph’s principal question: Yes, of course we need to TPFDD, but the RFF can also be viable where smaller deployments like OEF allow an ad hoc process to work.¹²⁸ Despite the problems in structure and execution in both case study deployments, each moved sizeable forces to cause devastating effects and allowed commanders to reach their desired end states. More importantly, the historical analysis of two similar case studies suggests three conclusions. First, deployment has a noticeable and profound effect on follow-on military operations. The TPFDD and RFF both were strategically responsive in moving forces, but both

¹²⁶ *Joint Lessons Learned*, 26.

presented planners, transporters, and troops in the field obstacles that affected and some cases impeded wartime tempo. Second, the US transportation network relies on a time phased deployment to sequence forces, both active and reserve, and discarding this process moves away from the architecture constructed in the 1990s injecting a degree of risk by using a process not well tested. Third, reacting to the criticisms of the TPFDD's rigidity, DOD has energized an initiative to make the deployment process more adaptive in execution by evolving the tools, people, and products to an end state better able to respond to the complex interactions occurring in a major deployment.

From these conclusions, this paper thus recommends a significant emphasis on matching the new adaptive planning possibilities with TPFDD practices to remove the obstacles that continue to impede wartime operations. Likewise, RFF practices are a second viable alternative to TPFDD measures, but the intractable bureaucratic hurdles experienced in OIF suggest the trained-to-TPFDD deployment practice be relied upon in major deployments while RFF is left for smaller deployments like OEF. In a sense, adaptive planning is a new blueprint for a deployment architecture or "building" that will truly be strategically responsive so that employment will once again start to drive deployment. Sir Winston Churchill is correct that the buildings do shape us, but the DOD adaptive planning of the future should shape the deployment environment so that planners' hands are freer to adjust on the fly rather than shackled to a pre-deployment rigid transportation structure.

The execution of DESERT STORM was tied to this rigid transportation structure. While this operation commenced after the largest US deployment of forces since Vietnam, the execution of a complicated and very detailed TPFDD did set the timing for the first Gulf War. Fortunately for the US, Saddam Hussein allowed the US to dictate the timeline so that the logistics timetable in *driving employment* was not detrimental to the operation's end state. The inefficiencies such as

¹²⁷ As quoted in *Air Force Doctrine Document 2-5, Information Operations*, 4 January 2002, 1.

airframes flying to locations unable to process passengers or cargo were absorbed by the lengthy buildup time afforded by the adversary. Likewise, the RFF process was impeded by similar deployment complexities and the subsequent RFF “deployment building” clearly shaped OIF execution from the start. The failure to establish an adequate logistics base, the difficulty in the reserve mobilization, and the time spent resolving all the RFF staffing issues by the CFLCC staff created issues still argued about in 2005 post-hostilities debates. A year after major combat operations terminated in Iraq, politicians and defense experts alike continue to ask the questions of whether enough “boots on the ground” were allowed for in OIF.¹²⁹ These questions while directly tied to senior defense leaders’ decisions, were indirectly impacted by the RFF architecture that absorbed an inordinate amount of precious planning time and saw the creation of overly exposed supply lines. Again Iraq’s *inability* to capitalize on the US logistics limitations seems to be as important in the final military outcome as the US military’s technological ability to overwhelm the country.

Future enemies may not provide the US with the time to wade through the transportation inefficiencies to craft the appropriate force. Defense Secretary Donald Rumsfeld directed the military to be ready to deploy to a distant theater in 10 days, defeat an enemy in 30 days, and redeploy to handle a second fight 30 days later.¹³⁰ Clearly, in this scenario, employment of combat forces will only occur if employment can drive the deployment timetable. Indeed, the recently released 2004 *National Military Strategy* maintains that the future joint force must be *expeditionary* or rapidly deployable while still being *adaptable* or properly prepared to quickly respond with the appropriate capabilities mix.¹³¹ The *National Military Strategy* further declares

¹²⁸ *Joint Lessons Learned*, 25.

¹²⁹ Thomas E. Ricks, “General Reported Shortages in Iraq,” *Washington Post*, 18 October 2004, A01.

¹³⁰ Jason Sherman, “U.S. Seeks to Add Flex to Force,” *Defense News*, 6 September 2004.

Internet: www.ebird.afis.osd.mil/ebfiles/e20040907317987.html. Accessed 7 September 2004.

¹³¹ *National Military Strategy*, 14.

“the increasing importance of mobility will necessitate more expeditionary logistics capabilities.”¹³²

To address these expeditionary and adaptable joint force attributes, the US must *actively train* to a deployment standard so the execution is more fluid and able to respond to future deployment hiccups bound to occur. The US military continues to ignore this reality. Indeed, the lessons of DESERT STORM noted the lack of trained JOPES personnel familiar with the system to efficiently handle the many inputs and the constantly changing outputs of the system. Surprisingly, a decade later, the OIF *Joint Lessons Learned* reports that personnel still lacked the training and understanding of the JOPES process to handle all the deployment intricacies, a fact further handicapped with the introduction of the RFF process. The report stated: “Aggravating the situation was the complexity of JOPES, which made it incompatible with the high turnover and consequent inexperience of users at the unit, installation, and even more senior levels. Schooling alone was insufficient to provide hands-on familiarity and confidence. Routine practical use was required.”¹³³ The Army’s Mobility Officer program is a small step in the right direction to correct this shortfall.

The first edition of *Joint Publication 1, Joint Warfare of the Armed Forces of the United States*, acknowledged Clausewitz’ common sentiment that logistics always has a decisive choice on operations. It simply stated: “Logistics sets the campaign’s operational limits.”¹³⁴ In this US military expeditionary era, the ability to deploy will clearly delineate the boundaries for any operation. However, to avoid the trap of deployment driving employment, the US military must train to a deployment standard that allows commanders to be able to act with what they *can do* rather than constrained by what they *can not* accomplish. The military must relook its examination of its tools, people, and processes and create an environment where operators and

¹³² *Ibid.*, 15.

¹³³ *Joint Lessons Learned*, 25.

¹³⁴ *Joint Pub 1, 1991 edition* as quoted in the *Quotes for the Air Force Logistician*, 21.

logisticians both train together for deployment in exercises where the tools, people, and processes are truly exercised. In doing so, the US will continue to fill in the “cracks” in the deployment architecture. By zeroing in on a solid adaptive planning deployment practice and continually testing it through exercises and routine deployments, the US will truly be able to answer the deployment imperative with *true strategic responsiveness* if its adversary *does not* give the time that Hussein afforded the US.

Therefore, the adaptive planning construct seems to put the US on the right path to design a deployment architecture that we can continue to shape as future crises unfold. It blazes a new iterative path of spiral development to a more responsive deployment structure. With new web-based and promising tools like CFAST, planners will be able to construct appropriate deployment products like a newly fashioned TPFDD that is properly planned and phased yet crafted in the near-term over the far-term. As changes occur in requirements or transportation hiccups, the tools and people will have the agile procedures in place to mitigate the disruptions and keep the phased plan on track for a quick and decisive deployment. As stated earlier, deployment is a complex activity, and as such, the US will never be able to just snap its fingers and make moving 100,000 troops an easy chore. However, adaptive planning builds a backdrop and mindset that will allow the process to adapt to changing conditions as the deployment unfolds. It is a proper perspective, which once is validated by PACOM’s testing, could be put in practice by all the combatant commands so the tools, people, and processes are trained in peace to prepare for war.

Sun Tzu once remarked that a wise commander never packs his supply train more than once. In other words, a proper logistics centerpiece allows a commander to fight the good fight once. The TPFDD and RFF packed one supply train, but Iraq’s inability to respond to the US technological superiority made sure that supply train did not have to be packed twice. Adaptive planning holds the promise of agility to allow commanders to pack the supply train more than once if need be and thus truly answer *FM 3-0’s* call to craft a strategically responsive force. The US will indeed still need to TPFDD if that means planning out and phasing its forces to a far off

land. But, that TPFDD, against an adaptive planning backdrop, designed by new tools will most certainly look different than the TPFDD deployment architecture of the 1990s. If it does look different in its ability to expertly plan ahead yet seem simple in execution, it will have moved to a lofty goal where deployment will no longer necessarily drive employment. The “logistics tail” will no longer wag the dog, but the dog could perhaps wag the tail. As logistics will continue to be nine-tenths the fight, particularly as the US becomes even more expeditionary with the withdrawal of overseas forces to the CONUS, the importance of this effort can not be understated. Adaptive planning should not only be the JCS J-7’s top priority, but rather it should be the US military’s number one priority to shape a “deployment building” that will shape us much less than previous deployments “buildings” have. It is a daunting challenge, but a vital one to succeed at if the US is ever truly to become efficient at being expeditionary!

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