

USAWC STRATEGY RESEARCH PROJECT

**THE MOBILIZATION SUPPORT BASE – A STRATEGIC
ENABLER TO MILITARY READINESS**

by

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ABSTRACT

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Initiatives aimed at improving efficiencies have impacted on individual mobilization resource areas. When reviewed in the overall context of mobilization, the cumulative second and third order effects on the resources have degraded mobilization efforts. This paper will provide a historical review of mobilization support and identify shortfalls in mobilization resource areas. Based on research and interviews, analysis will be provided on the cumulative impact of the training base, industrial base, facilities and manpower on readiness and the capability to support mobilization.

TABLE OF CONTENTS

ABSTRACT.....	III
THE MOBILIZATION SUPPORT BASE – A STRATEGIC ENABLER TO MILITARY READINESS	1
GENESIS OF MOBILIZATION SUPPORT	2
THE EARLY DAYS	2
INDUSTRIAL MOBILIZATION	3
PROTECTIVE MOBILIZATION	4
Setting the Stage for Mobilization Support Planning.....	4
The Military Surges	4
MOBILIZATION RESUMES.....	4
THE POLITICS OF MOBILIZATION	5
POST COLD WAR MOBILIZATION	6
THE TOTAL FORCE	6
TRANSITION AND THE CHANGING FACE OF MOBILIZATION	7
The Mobilization Process	7
The Graduated Mobilization Response	8
THE TRAINING BASE AND INFRASTRUCTURE SUPPORT FOR ODS	9
THE DRAWDOWN CONTINUES	11
CAPABILITY OF THE MOBILIZATION BASE – A CURRENT PERSPECTIVE	12
BRAC AND THE WAR ON WOOD	12
TRAINED AND READY	13
CONCLUSION	16
ENDNOTES	19
BIBLIOGRAPHY	23

THE MOBILIZATION SUPPORT BASE – A STRATEGIC ENABLER TO MILITARY READINESS

The modern process of preparing armies for war originated in the middle of the nineteenth century. The recruitment of volunteers to fill the ranks no longer sufficed. Governments turned to conscription, created huge forces, and harnessed their national economies to conduct war. The word mobilization was first used in the 1850's to describe the preparation of the army of Prussia for deployment. The American Civil War marked the appearance in the United States of the draft and mass armies, along with the organization of productive resources to sustain them. The volunteer tradition of the minutemen was on its way to become little more than a sacred memory, and the logistical simplicity of the American Revolution was gradually falling by the wayside. The era of mobilization—the reallocation of a nation's resources for the assembly, preparation, and equipping of forces for war—had arrived.

—Frank N. Schubert

The transition of a nation to war requires all the resources a nation has available. Joint Doctrine provides for two processes integral to mobilization. The first requires an increase in military readiness, the second relies upon the economy and its ability to meet both non-defense needs as well as continue to sustain the military.¹

The Department of Defense (DoD) dictionary defines mobilization as the act of assembling and organizing national resources to support national objectives in time of war or other emergencies.² While the President and National Security Council establishes national mobilization objectives, Congress exercises control over the mobilization process through budget approval and fund authorization. The Secretary of Defense is responsible for setting broad, basic mobilization policies, objectives and planning guidance to meet presidential objectives. The defense budget supports the mobilization process for a limited war or regional conflict.

The Joint Chiefs of Staff have detailed four tenets of mobilization, supported by twelve interdependent resource areas.³ The tenets; objective, unity of effort, flexibility and timeliness are supported by “the assembly and organization of resources.”⁴ These resources are: manpower, material and equipment, transportation, facilities, industrial base, training base, health service support, communications, host nation support, environmental impact, legal authorities and funding. The Joint Chiefs of Staff have also defined mobilization as:

The total of all resources available, or that can be made available, to meet foreseeable wartime needs. Such resources include the manpower and material resources and services required for the support of essential military, civilian, and survival activities, as well as the elements affecting their state of readiness, such as (but not limited to) the following: manning levels, state of training,

modernization of equipment, mobilization material reserves and facilities, continuity of government, civil defense plans and preparedness measures, psychological preparedness of the people, international agreements, planning with industry, dispersion, and standby legislation and controls.”⁵

Initiatives aimed at improving efficiencies have impacted on individual mobilization resource areas. When reviewed in the overall context of mobilization, the cumulative second and third order effects on the resources have degraded mobilization efforts. This paper will provide a historical review of mobilization support and identify shortfalls in mobilization resource areas. Based on research and interviews, analysis will be provided on the cumulative impact of the training base, industrial base, facilities and manpower on readiness and the capability to support mobilization.

GENESIS OF MOBILIZATION SUPPORT

THE EARLY DAYS

The earliest mobilizations of citizen soldiers were individual volunteers; serving only for the duration of a specific conflict. They traveled lightly, lived in tents and in most cases, provided their own armaments and provisions. The Organized Reserve Corps was formed just prior to WWI and replaced early mobilizations supporting war activities on U.S. soil. These individuals continued to mobilize as replacements for overseas units during WWI and WWII. As the reserve organizational structure grew, so did resource requirements. However, when the Selective Service System was put in place during 1917, availability and mobilization of manpower became secondary.⁶

During WWII, numerous support bases or facilities were developed throughout the U.S. to train and later deploy military personnel. Numerous enduring bases such as Fort Ord, Fort Devens, Fort Dix, and Fort McClellan were used as training and deployment platforms. Additional support installations, such as Camp Santa Anita in California, were put into place to facilitate training and the manpower surge. Camp Santa Anita was a racetrack; taken over by the Army to conduct training.⁷ Once the initial mobilization surge was completed, Camp Santa Anita became a racetrack again. Additional installations such as Camp Crowder, MO; Keesler Field, FL; Camp Miles Standish, MA; Camp Fannon, TX; Jefferson Barracks, NJ; and Camp Hoffman, AK were temporarily developed to augment the manpower and facility requirements of WWII mobilization.⁸

INDUSTRIAL MOBILIZATION

Sorting through competing Army and Navy requirements for equipment, supplies and facilities was challenging.⁹ Civilian businessmen controlled supply and demand since military personnel lacked expertise and experience with procurement. This resulted in increased production and procurement costs, and industries realized considerable profit. To support increased production demands of the war effort and sort out support priorities, the War Industry Board was established in 1917.¹⁰ Its purpose was to coordinate purchases and establish fill priorities to support ongoing military readiness. Shortened timelines for providing support created production and distribution backlogs for deploying personnel.

Industrial mobilization planning began in the 1930's with the nation organized under the President to adequately support wartime preparedness.¹¹ The plan allowed the President to establish economic mobilization policies and provide for price controls. Through experience, the U.S. government realized that mobilization was a series of interrelated support processes that needed to occur as early as possible in advance of deploying U.S. forces. Simultaneously, the Army was preparing a mobilization plan to address advance support requirements of a defense force.¹² This plan did not address adequate troop housing and facilities for a force of 400,000 and is considered a major shortfall. Additionally, funding was not available to support existing mobilization plans.

The President realized the necessity of being able to mobilize quickly but also faced reelection during a period of renewed American isolationism. Oceans were considered a natural defenses and the U.S. public did not want a large standing Army or involved mobilization preparations. By 1939, the industrial mobilization plan was abandoned in favor of a limited preparedness policy. The President wanted to gradually increase the reach of the Navy and newly formed Air Corps by capitalizing on new technologies for air and naval capabilities. With a limited preparedness concept, the President could justify limited defense funding, still maintain support for internal social programs and not alienate voters. Although not the concept of the time, focus went to mobilization support of power projection platforms; where the force was trained, quickly mobilized and deployed forward.

The end strength for the Regular Army and National Guard was increased. Intuitively, increased end strength required build up of additional support and training facilities in the U.S. Both the Navy and Air Corps provided a forward reach capability, significantly altering the value of the oceans in defense of the United States. Despite this, the U.S. never fully mobilized the economy. The federal government stayed linked to industry due to an increase in war production and requirements.¹³

PROTECTIVE MOBILIZATION

Setting the Stage for Mobilization Support Planning

The protective mobilization plans of the 1940's can be considered the primary building block for current mobilization support planning. The protective mobilization plan was based on the premise that the Army would be responsible for protecting the United States and the western hemisphere without support from a full scale mobilization of the industrial base.¹⁴ The ongoing events in Germany opened the appropriation purse strings. Protective mobilization allowed the Army to gradually build a homeland defense mission and expand the training base.

The U.S. was not at war, but the interrelated pillars of mobilization; training, industrial base, facilities and manpower would expand. The Army took the lead in identifying mobilization support needs and reviewed the availability of facilities, manpower, materials, energy and all other resources. The industrial base was limited and did not have the ability to support requirements in a timely manner. During this timeframe procurement districts, arsenals and depots were formed in hopes of producing and assembling equipment and munitions well in advance of actual need.¹⁵ The Army Corps of Engineers were responsible for all military construction, including ordinance factories, administrative facilities and troop billets. Under contract, private construction companies did the actual work. Later, management of the factories would also be contracted.

The Military Surges

Mobilization planners knew that equipment and facilities should be available first. They were not prepared for the surge of the Army's strength to 5.4 million. Manpower was available; facilities to support mobilization were not. The lag in construction of billeting, maintenance and repair, and supply facilities resulted in slower enlistments, delay of federalization of the National Guard, amendment of the draft law by lengthening the term of service and establishing interim rather than final recruitment goals.¹⁶

War agencies were regarded as strictly temporary and once the Defense program was replaced by the Victory program, all mobilization resource programs returned to pre-war status.

MOBILIZATION RESUMES

The Korean War changed the mobilization paradigm for the U.S. Planners were tasked with supporting a limited war. They were faced with WWII surplus equipment, under strength units, service support provided by civilians and an eighteen to twenty-four month lead time for industry to retool to support mobilization requirements.¹⁷

For manpower, the military relied upon selectees or individual replacements and volunteers to fill the ranks of the National Guard. Selectees consisted of inactive Reserve and National Guard members rather than unit members. Most of the selectees were WWII veterans and some were immediately assigned as trainers, while others immediately deployed to Korea without additional training. Personnel mobilizations were tumultuous. Additionally, individuals were mobilized and deployed with inadequate equipment. Reservists and active component personnel were released when their terms expired, leaving open requirements for personnel backfills.

Industrial mobilization was not a significant player initially. Mobilization planners used WWII surplus to meet needs. Additionally, the “roll-up and rebuild program”¹⁸ provided timely resupply to mobilizing and deploying forces.

The Defense Production Act of 8 September 1950 instituted a production program designed to “support and equip a 3.5 million force; replace materials and supplies; tool up and expand industrial capacity for higher levels of future production; and provide facilities and installations for the expanded armed forces.”¹⁹ Like the acts of WWII, the President was given the authority to establish priorities and establish an Office of Defense Mobilization.

The Office of Defense Mobilization controlled appropriations for defense procurement and industrial mobilization as well as providing for research and development. Even though WWII arsenals and other factories were used extensively to support mobilization; requirements and scheduling were never synchronized. There were numerous resource shortages in ammunition and clothing during the Korean War. By the time the Korean War ended, the U.S. had tripled the size of the military and quadrupled the defense budget.

The U.S learned that a limited war would require quick worldwide deployment of troops in a combat-ready state of training. The requirement for a substantial training base was maintained.

THE POLITICS OF MOBILIZATION

The impact of mobilization efforts on politics is nothing new. To this point, we have seen the range of politics; isolationist policies, reluctance to mobilize the economy for preparedness, government support of privately owned industries and lags in meeting mobilization support requirements. However, once the President made the decision to commit resources to mobilization, the nation responded.

The impact of mobilization on politics was never more evident than during Vietnam. U.S. involvement in Vietnam spanned three presidential administrations, yet the national strategy did

not improve the readiness posture by mobilizing the nation. Subsequent U.S. national support was never realized. Reserve mobilization was minimal and limited to approximately 35,000 personnel. Politically, the President attempted to conduct the war so that it would have little noticeable impact on everyday life in the U.S. The bottom line; there was no mobilization base support effort conducted during Vietnam. Looking at the definition of the mobilization base, mobilization requires among other things, the “psychological preparedness of the people.”²⁰ One of the reasons the population of the United States was disaffected with Vietnam was because there was no preparedness. And without the support of the mobilization base, the nation would not continue to sustain the war effort.

POST COLD WAR MOBILIZATION

THE TOTAL FORCE

In the wake of budget deficits due in part from large military buildups to win the Cold War, the nation called for a large drawdown of military forces by cutting Defense appropriations.²¹ With the drawdown, the nation also looked for the “peace dividend”. Once again the active component was downsized, with an increase to the Reserves. Overall, the U.S. was cautious in re-evaluating national security requirements and its defense posture. Defense through mobilization had been the prevailing doctrine and post Cold War proved no differently. The Total Force policy was adopted in 1973 with hopes of integrating both active and Reserves in the war planning process. The Total Force policy linked Reserve Component mobilization requirements with individual service components²² and provides a cost effective means to maintain a trained and balanced force for the security of the nation. A standing active force is very expensive and historically, the U.S. does not maintain a large standing Army. The Total Force Policy shifts missions from the active to the Reserve Component.²³ A key factor of the Total Force Policy would be to ensure that trained Reserves would be ready when required in any future deployment of U.S. forces.

National security interests of the U.S. are met by the ability to rapidly mobilize, deploy, and employ reserve component personnel. The Total Force Policy was designed to facilitate this.²⁴ However, the Total Force Policy does not necessarily reflect the proper mix of Reserve and active component requirements. The ongoing recommendation is to review the force structure to ensure the proper mix of skills to support mobilization and contingency requirements.

TRANSITION AND THE CHANGING FACE OF MOBILIZATION

The Mobilization Process

Unlike WWII, the U.S. no longer needs a large, heavy industrial base to support a full mobilization. With a focus on supporting regional contingencies, the industrial base was beginning to feel the effects of declining resources. Simple economics proved that to be successful and support mobilization efforts, businesses need to have the ability to be responsive and provide a product or service smarter, quicker and cheaper.

In a 1990 address to Congress, then Secretary of Defense Dick Cheney stated that the Department of Defense was concerned with the erosion of the U.S. industrial base. Three items were cited: a decline in the total number of defense suppliers; accelerating penetration of foreign goods into U.S. markets; and a growing dependency on foreign sources for vital components and subassemblies, and decreasing returns of fixed assets, declining capital investments and lagging productivity in key defense sectors.²⁵ However, during Operation Desert Storm (ODS), industry planning kept pace with military planning due to the availability of strategic stockpiles of supplies and equipment left over from Cold War preparations. The stockpiles allowed the U.S. to successfully support and conduct a short duration conflict. One of the unanswered questions is whether the U.S. could have sustained a protracted conflict after stockpiles were depleted.

The national military strategy calls for the military to meet future challenges with a smaller force and with that in mind, the military needed to evolve from a heavy forward presence to a light, CONUS based easily deployable force.²⁶ This significantly increased the reliance on the Reserve Components and the availability of power projection platforms to quickly support mobilization. The Total Force Policy was beginning to have an impact; DoD, at least, considered active, guard and Reserve personnel as one integrated force. Reserve and National Guard units were visible members of their communities and performed numerous humanitarian and disaster relief mission throughout the world, augmented active forces and provided skills otherwise not available.

The DoD remained cautious in the use of Reserves and in 1988, recognized that the Air Force, Navy, Coast Guard and Marines would be able to accommodate mobilization of their Reserve forces. The Reserve forces in these services had been trained and integrated with their active counterparts. The Army did not provide training and integration of the Reserves and National Guard as required by the Total Force Policy. As a result, the Army would require major expansion of the training base to increase capability.²⁷ Also recognizing that mobilization efforts

needed to be phased, both the graduated mobilization response (GMR) and the time-phased force and deployment data (TPFDD) plan, developed in 1982²⁸ were being implemented. Phasing was designed to enhance readiness by providing the mobilization base with the opportunity to synchronize planning and capabilities with requirements. Phasing was also designed to prevent a surge that would overwhelm the mobilization base, depleting available resources. Additionally, phasing caused further refinement of the Total Force Policy, providing manpower to be mobilized and employed as a unit, rather than individual fillers which had proved to be an unsuccessful practice during the Korean War.²⁹

The Graduated Mobilization Response

A direct correlation between graduated mobilization response (GMR) and the increased demand for support facilities and training is built into the process. Military installations are integral to the mobilization base. As the level of GMR increases, requirements for training, facilities and manpower increase. This shows the interdependence between manpower mobilization, readiness of the sustaining and training base, and ability of the economy to respond and plan to use capabilities.

The GMR provides for five levels of mobilization:

Presidential selected reserve call-up (SRC). Title 10, United States Code (USC) 673(b), authorizes the President to involuntarily call up 200,000 members (all services) of the selected reserves as individuals or units for 180 days, with an extension of up to 180 days. This PSRC authority does not require the President to declare a national emergency; it does require a report to the U.S. Congress within 24 hours.

Partial mobilization. Title 10, USC 673(a), authorizes the mobilization of 1,000,000 ready reserve (all services) members for up to 24 months using a Presidential executive order upon proclamation of a national emergency. Congress may declare a state of national emergency and subsequent reserve mobilization under Title 10, USC 672(d). The congressional declaration does not limit the number of reservists mobilized or the length of tour unless specified in the resolution.

Total mobilization. This is an extension of full mobilization. It activates and organizes additional units beyond the current approved force structure. Total mobilization brings the industrial mobilization base up to full capacity to provide additional resources, equipment, and production facilities needed to support the armed forces of the nation.

Selective mobilization. This is used primarily for domestic emergencies or natural disasters. It is authorized under Title 10, USC 3500, 8500, 331, 332, and 333. The President or Congress, through proclamation or special action, authorizes and expansion of the active duty force with National Guard or Reserve

units to protect life, federal property, and functions, or to prevent the disruption of federal activities.³⁰

The GMR supported the national military strategy but did not provide a plan for a rapid partial mobilization. The GMR was still geared for total war, where full mobilization was expected. Until Operations Desert Shield and Storm (ODS), it had been nearly twenty years since the U.S. relied on the Reserve Components. Short of a global conflict, it was generally assumed that Reservists would not be called to active duty. Subsequently, training of Reservists was not a high priority. Approximately 245,000 Reserve Component personnel were mobilized during ODS. Initially, in August 1990, 25,000 selected Reserve unit members and Individual Military Augmentees were called to active duty for a period of 90 days under the 200,000 call up authority, later extended not to exceed 270 days. They provided combat support and combat service support functions, primarily on CONUS based installations as well as augmenting air and sea port facilities. The call-up was phased over the next several months, culminating in January 1991 with Presidential authorization for a Partial Mobilization. The Secretary of Defense was authorized to call up to 1,000,000 Reservists for a period of two years.

As a result, critical enablers, such as port operations and supply personnel were identified for later mobilization on the TPFDD and not included in the 90 day call up authority. Additionally, the TPFDD did not include individuals, only units with a unit identification code. To avoid further delays, the TPFDD had to be manually adjusted, moving units forward to accommodate critical manpower shortfalls.³¹

THE TRAINING BASE AND INFRASTRUCTURE SUPPORT FOR ODS

Operations Desert Shield and Desert Storm demonstrated the ability of the U.S. to quickly mobilize and deploy Reserve forces and equipment. Approximately 106,000 of the 245,000 mobilized reservists served in Southwest Asia during ODS. The remainder performed support functions for both the training and sustaining bases. Upon mobilization, premobilization training was identified as a readiness detractor. Specifically, training was at issue for three Army National Guard (ARNG) combat brigades.³² During peacetime, the ARNG did not train to combat proficiency. Contributors to the shortfall in training included a lack of maneuver and training space, inadequate equipment, lack of dedicated trainers and state economic constraints to fit all training in available drills and annual training periods. This had an adverse impact on the mobilization and readiness process. The brigades never deployed due to the amount of time required for post-mobilization training.³³

This had high visibility and concern within Congress and along with realignment of the force structure, was considered in the 1993 Bottoms-Up Review conducted by DoD.³⁴ There were inequities in training and equipment distribution between the active and Reserve Components. The resulting enhanced readiness brigades were expected to receive priority for training and resources. In order to enhance training and decrease mobilization to deployment processing time, the General Accounting Office made several recommendations to the Sec of the Army. These included sharing of available training equipment between active and Reserve units; increase the training base to provide instruction on equipment used by units to which reservists were assigned; and ensure that Reserve commanders are adequately trained.³⁵ Later, it was determined that the mobilization base would be required to provide training and maneuver sites, training personnel, opposing forces and installation support.³⁶

Other problems occurred with infrastructure support. Mobilization plans and the TPFDD called for mobilization support units to be called at full mobilization. For the Army, this was the United States Army Reserve (USAR) Garrison unit. Additionally, USAR Garrison units only supported larger installations. Four USAR Garrisons were activated to support OSD.³⁷ The reserve structure to support further activation and mobilization was not available under GMR, the 200,000 call-up for ODS

The USAR Garrison unit operates military installations when the active component deploys. Deployments left a shortfall in medical, logistical, force protection, asset accountability and administrative support for mobilization stations throughout the U.S.,³⁸ subsequently, additional mobilization stations were not augmented with USAR Garrisons, protracting mobilization processing and training time.

Adding to the shortfall of USAR Garrison, there was no increase in the civilian end strength during ODS. While performing concurrent deployment of active component personnel and mobilizing Reserve and National Guard units, civilians were expected to continue to perform day to day base sustaining activities. DoD civilians performed many of the support functions previously accomplished by military personnel. Logistics operations such as equipment and preventive building maintenance were neglected in order to support mobilization. This had a cascading effect on replacement parts and equipment required for ODS. The civilian personnel system was not responsive to the surge in mobilization requirements.

The industrial base also redefined surge capabilities during ODS. To provide products, goods and services quicker and cheaper, the industrial base did not expand military production as it had in the past. The focus was on logistics support services using existing facilities and equipment to accelerate production, maintenance, and repair of items.³⁹ Primarily, industry

limited production expansion to produce consumables and small items. Because of the strategic reserve stock, the speed at which the country was able to mobilize resources for war, without expanding, became a key factor in the success of ODS. Equally impressive was the capability of the mobilization base to provide superior technology in terms of weapons modernization and equipment

Over a half million passengers, 3.7 million tons of dry cargo and 6.1 million tons of petroleum products were shipped to the theater of operations.⁴⁰ Getting personnel and supplies to southwest Asia required an integrated and synchronized effort between all facets of the mobilization base. The President activated the Civilian and Reserve Air Fleet for the first time. Port capabilities were increased and there were instances where the U.S. government upgraded commercial runways to accommodate the surge in air traffic.

The nation had five months to prepare for war and relied heavily on high stock levels from the mobilization base as well as prepositioned equipment.⁴¹ The high stock levels were a result of the Cold War defense budgets, where resources provided for an adequate build up. The stock levels also provided the industrial base with the time needed to accelerate production. However, if ODS had been protracted, stock levels might not have sustained U.S. forces. A recommendation would be to have the U.S. continue to examine stock levels to ensure adequate stocks are available while the industrial base gears up to support operations.

There are numerous examples where the mobilization base accelerated both production and delivery on its own initiative, providing just in time supplies and equipment. In other situations, the Defense Logistics Agency increased the number of vendors capable of providing required items and effectively used available resources to meet mobilization needs, without invoking the Defense Production Act. The Defense Production Act allows the President to direct industry to expand capabilities to meet the requirements of sustaining war efforts.

THE DRAWDOWN CONTINUES

The U.S. mobilization base has continued to down size. Technology has led to better inventory systems and cost savings. Just in time delivery methods replaced large warehouses and centralized distribution systems. Outsourcing replaced local businesses. Defense contracts, once plentiful and easily obtained now face highly competitive rules and constrained resources. A significant downside should be noted: ODS depleted the strategic reserve built up from the Cold War. Working together, industry and DoD sought to improve manufacturing technologies, providing emphasis on the capability to reconstitute the forces. There are concerns that without a major threat to the U.S., defense budgets will continue to shrink and the

strength posture of the U.S. will be diminished. Modernization, mobilization and transformation are geared to support long-term security requirements. Additional resource requirements are linked to modernization and transformation. New weapons platforms require additional maneuver space and training time for both the active and Reserve Components. Despite new requirements, a number of ongoing initiatives have a negative impact on manpower and training capabilities.

The DoD is challenged with being able to reconstitute production rates to support regional conflicts. Recommendations include defense partnering with industry. This is one way to continue to retain the industrial base. Innovative DoD leaders have encouraged cross training programs within private industries. This has enabled industries to be prepared to meet national defense surge production requirements.⁴²

CAPABILITY OF THE MOBILIZATION BASE – A CURRENT PERSPECTIVE

BRAC AND THE WAR ON WOOD

Base realignment and closure (BRAC) actions began in 1988 continued through 1995. During the period, DoD underwent a series of four base closure studies. Both the Air Force and Army were impacted. Installations and bases were transferred or sold to state and local redevelopment firms, turned over to other Federal agencies, or restructured in whole or part to be Reserve enclaves. On Reserve enclaves, DoD reduced its infrastructure of billeting and administrative space by fifty seven percent, identified half a million acres of unneeded training acres and further reduced available training acres from 394,430 to 351,386, an eleven percent decrease.⁴³

The eleven percent loss in training space needs to be factored in with increase range and maneuver space requirements for new equipment and usable maneuver or training space available on active installations. Urban encroachment, environmental restrictions, access and availability, water sites and even shape of the installation have impacted on the availability of training and maneuver space.⁴⁴ Fort Hood could be used as an example, only eighteen percent of the required maneuver space is available for use due to the fact that the installation is built up and overcrowded.⁴⁵

The next BRAC round is scheduled for 2005. If the trend continues, six of the ten major Reserve enclaves, currently used as mobilization stations, will close. Minimum essential training area will be maintained, with no additional personnel support to meet premobilization training requirements. In many cases, the Reserve Components accepted unimproved training areas, with little or no funding for improvement.⁴⁶ Lack of adequate maneuver space forces

units to train outside of doctrinal requirements and increase the use of workarounds to minimize the loss of space. Reserve units will receive lower priorities when competing for training space.

It is recommended that DoD review the possibility of using the two million acres available at White Sands Missile Range for additional maneuver space. Additionally, recommend that BRAC work closely with the ongoing Joint Land Use Study Program to resolve encroachment issues that will continue to degrade the training base.

Additionally, the Army closed several depots and supporting organizations while the Air Force privatized two of its five depots as a result of BRAC. By law, fifty percent of depot work must be done at government facilities otherwise all depots would have been considered for BRAC scrutiny.⁴⁷ With increased reliance on the commercial industrial base for repair and overhaul of major end items, responsiveness and surge capabilities are currently under review by the General Accounting Office.

The next BRAC round will consider the remaining depots with the possibility of transferring all depot operations to the private sector. Mobilization surge capabilities are negatively impacted by the decline in the number of suppliers and declining capital investments.⁴⁸ Rather than depend on lagging response time from the industrial base, the Army is considering turning two arsenals into federal corporations that could manufacture commercial products as well as manufacture needed munitions to reconstitute depleted stockpiles.⁴⁹ This initiative should be pursued.

The DoD declared a war on wood throughout the military. Older, WWII facilities were demolished. All military installations, including the Reserve enclaves, were required to reduce the square footage of available facilities. For example, Fort Indiantown Gap demolished 349 facilities since 1998.⁵⁰ Once a building has been destroyed, like-type facilities are not reconstructed. This leads to a shortfall of billeting, training and administrative space needed to support mobilizing and deploying forces.⁵¹ Rather than building new facilities, contracting and acquisition processes should be reformed to facilitate a quick turn around of leasing off post facilities to support mobilization surges.

TRAINED AND READY

In the 30 September 2001 Quadrennial Defense Review (QDR), the Sec Def discusses "first to fight" forces as being trained and ready; at the cost of degrading the readiness of other units.⁵² Readiness, as defined in the QDR, includes readiness of carrier air wings, strategic transport capabilities, non-divisional and Reserve Component units and the aging infrastructure and instrumentation of U.S. training ranges.⁵³ The infrastructure of the mobilization base also

includes military and civilian piers, runways, and hangars supporting U.S. combat forces; the buildings where DoD personnel work; military housing and barracks; and training space.⁵⁴ Sustainment of facilities on military installations had fallen significantly behind the industrial base, adding to readiness concerns. In 1998, the services were directed to dispose of over 80 million square feet of unneeded and unserviceable facilities; of that, the Army's goal by the end of fiscal year 2003 was to demolish 53.2 million square feet.⁵⁵

The capability of the mobilization base and the aging infrastructure was next tested after the events of 11 September 2001. Operation Enduring Freedom (OEF) followed by Operation Iraqi Freedom placed constant pressure on the mobilization base. Adding to mobilization stressors, the Army continued to demolish and dispose of unserviceable facilities throughout the mobilization process. As of 27 January 2004, 193,804 National Guard and Reservist members have been mobilized from within DoD.⁵⁶ In contrast to ODS, Garrison Support Units (GSUs); formerly USAR Garrison units; were mobilized early in the process. The GSUs are assigned to Army Power Projection Platforms and larger mobilization stations across the U.S. as depicted in Figure 1.⁵⁷ Other services did not require a surge in support capabilities. With the exception of the Army; all other services are structured to train, mobilize and deploy reserve component members almost immediately.

Each GSU has a different structure, designed to meet the needs of the installation it supports. As in ODS, GSUs were not assigned to smaller installations. Once again the TPFDD was manually adjusted to meet the needs of the Combatant Commander; as a result both the larger and smaller installations identified problems with the mobilization surge. Facilities available during ODS mobilization had been demolished as a result of the war on wood. Billeting facilities, dining areas and administrative space were at a premium. In many cases, active component forces had not deployed. Manpower requirements within the GSU also surfaced as problematic. The right skill sets were not available and in many cases, there was a grade mismatch.

The deployment timelines conflicted with mobilization timelines and facilities were not vacated for follow on mobilization use.⁵⁸ The TPFDD had not been adjusted to meet the needs of partial mobilization to support regional conflicts.

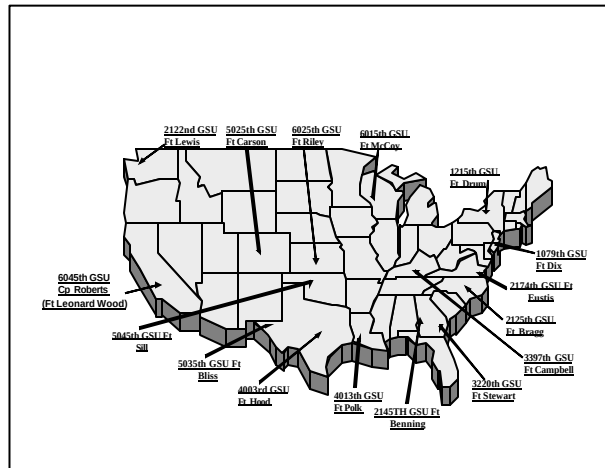


FIGURE 1. CONUS GARRISON SUPPORT UNITS

The installation support structure went through several transitions in the period between ODS and the mobilizations for OEF and OIF. Commercial activities studies were conducted. In many cases, the commercial industrial base was contracted to perform day to day logistic and public works functions. When the original statements of work were written for commercial activities studies, workload data was based on prior year activities. Advanced planning for mobilization support activities was not included in the cost comparisons.⁵⁹ Where installations kept support functions with DoD civilians, mobilization resource activities were cut to a minimum. Maintenance shops were closed and facilities converted to other uses. Even with the GSUs, installations had difficulty handling the large scale mobilization.⁶⁰

The support provided by GSUs falls into three categories: Installation support where day to day business is conducted; Force Protection with individuals providing access to installations; and, mobilization support for activities directly tied to mobilization and deployment. All GSUs were activated to support OEF and OIF. Subsequently, these Reservists will leave active duty in June 2004, leaving a shortfall in resource support services. HQDA will be developing a contract to provide mobilization support for the next rotation into OEF and OIF.⁶¹

As a result of ongoing demolition of facilities, billeting space was severely limited. With the active component still on many installations and facilities unavailable on others, mobilized and deploying Reservists were billeted in open facility areas such as post gyms or tents. On smaller installations with limited space or no facilities, hotels and motels were contracted to provide off post billeting. The Installation Management Agency for the Army is currently

developing and staffing “Billeting Standards for Mobilizing Soldiers”. Once finalized, the standards will be used throughout the Army and will provide a tiered priority system for accommodations.⁶²

CONCLUSION

Mobilization is a key element in the National Security Strategy of the U.S. Success in war depends on the nation and its capability to integrate the training and industrial base with facility and manpower availability.

There are a number of challenges facing the nation. Declining resources have had a direct impact on the readiness of mobilization. The U.S. must continuously replace strategic stockpiles while meeting the requirement of ongoing activities. And it must be accomplished quickly to respond to ongoing activities. The U.S. was fortunate during ODS and other short duration conflicts. Stockpiles were in place and the reconstitution process was not challenged. Unless there is coordination between DoD and the industrial base, there will be shortfalls in meeting defense requirements. Shortening the cycle time will require forward thinking. The initiative to convert two arsenals into federal corporations may become the benchmark for the future of the industrial base in support of DoD. The arsenals would manufacture needed munitions to reconstitute depleted stockpiles, meet surge requirements and manufacture commercial products during peacetime. It is logical to assume that these activities would be partnership ventures, very similar to management of Corps of Engineers factories during WWII.

Infrastructure support for facilities and the training base was critical throughout the mobilization history of the U.S. During WWII, facilities were developed to provide for training and mobilization of military personnel. The cycle time from training to deployment was reduced by developing additional training bases to temporarily augment existing bases to meet surge requirements. As in the case of Camp Santa Anita, once personnel were trained, the base became a racetrack again. During the Korean Conflict and ODS, the U.S. had the benefit of existing bases and infrastructure and successfully sustained a rapid build up of personnel to participate in a regional conflict.

The Total Force Policy was never fully implemented by the Army. Subsequently, Reserve personnel did not receive parity for training and equipment. Lack of infrastructure support in terms of the training base had a detrimental impact on readiness and deployment. The training base is now focused on providing training for enhanced brigades. The infrastructure can support training for one brigade, and allow for shorter cycle time from mobilization to deployment.⁶³ By exploring the availability of additional maneuver and training space such as

the two million acres at White Sands Missile Range, DoD can increase the number of units who can train and be ready to deploy when needed.

Numerous facilities were built to support WWII mobilizations; however 80 million square feet of facilities have been demolished since 1998. There are billeting shortages, due to ongoing demolition and overlapping deployments. Bases have closed, adding to the shortfall in training and maneuver space. There is a shortfall in the synchronization between the GMR and the TPFDD. The TPFDD was manually adjusted for ODS and OIF. The Total Force Policy should align with the GMR and TPFDD. The force mix should be reviewed and realigned if warranted.

The nation depends on the adequacy of the mobilization base to meet future needs. To have a trained and ready reserve force to meet mobilization needs, the U.S. needs to provide adequate facilities and training, and ensure the industrial base is ready. Mobilization resources are interdependent. Manpower, training, and facilities will result in a trained and ready force to support the national security strategy.

WORD COUNT = 6,419

ENDNOTES

¹Joint Chiefs of Staff, *The Joint Doctrine Encyclopedia* (Washington, D.C.:U.S. Joint Chiefs of Staff, 17 December 2003), 524.

²Joint Chiefs of Staff, *DoD Dictionary of Military and Associated Terms*, Joint Pub 1-02; available from <www.dtic.mil/doctrine/jel/doddict/data/m/03450.html>; Internet; accessed 7 December 2003.

³Joint Chiefs of Staff, *Joint Doctrine for Mobilization Planning*, Joint Pub 4-05 (Washington, D.C.: U.S. Joint Chiefs of Staff, 22 June 1995), II-1.

⁴Ibid, IV-1.

⁵Joint Chiefs of Staff, *DoD Dictionary of Military and Associated Terms*, Joint Pub 1-02; available from <www.dtic.mil/doctrine/jel/doddict/data/m/03451.html>; Internet; accessed 7 December 2003.

⁶Frank N. Schubert, *Mobilization in World War II* (Washington, D.C.: U.S. Army Center of Military History), 3; available from <<http://www.army.mil/cmh-pg/documents/mobpam.htm>>; Internet; accessed 23 January 2004.

⁷"WWII Stories," 1942; available from <http://www.hbo.com/apps/band/site/client/stories/curated_story.jsp?exd=561>; Internet; accessed 10 February 2004.

⁸Ibid. Numerous memoirs from the "Band of Brothers" series are available at the same web site, some similar experiences; many different mobilization and basic training sites throughout the U.S.

⁹Schubert, 3.

¹⁰Ibid.

¹¹Ibid, 6.

¹²Ibid, 8.

¹³"Management Aids," 26 January 1994; available from <<http://acused.adu.gen/WW2Timelin/.html>>; Internet; accessed 26 Jan 04.

¹⁴Schubert, 11.

¹⁵Center for Military History, *History and Military Mobilization in the U.S. Army: 1977-1945*, CMH Pub 104-10, (Washington, D.C.: U.S. Army Center for Military History, 1989), 476.

¹⁶Shubert, 17.

¹⁷Dr. Robert W. Coakley, *Highlights of Mobilization, The Korean War*, 2-3.7 AF.C, (Historical Manuscripts Collection, U.S. Army Center for Military History) 4.

¹⁸Ibid

¹⁹Ibid

²⁰Joint Chiefs of Staff, *DoD Dictionary of Military and Associated Terms*, Joint Pub 1-02; available from <www.dtic.mil/doctrine/jel/doddic/dm/03451.html>; Internet; accessed 7 December 2003.

²¹COL Ronald P. Dale, *Mobilization for Operation Desert Shield/Storm: Lessons Learned*, Strategy Research Project (Carlisle Barracks: U.S. Army War College, 8 April 1991)

²²General Accounting Office, *Army Training: Management Initiatives Needed to Enhance Reservists' Training* (Washington, D.C.: U.S. General Accounting Office, 1989) 5.

²³Joint Chiefs of Staff, *Joint Doctrine for Mobilization Planning*, Joint Pub 4-05 (Washington, D.C.: U.S. Joint Chiefs of Staff, 22 June 1995), viii.

²⁴Ibid, 13.

²⁵Dick Cheney, Secretary of Defense, *Annual Report to the President and Congress*, (Washington, D.C.: U.S. Government Printing Office, January 1990).

²⁶Department of the Army, *Division Operations*, Field Manual 71-100 (Washington, D.C.: U.S. Department of the Army, 28 August 1996) D-1.

²⁷Department of Defense, *Mobilization Master Plan*, DoD 3020.36-P (Washington, D.C.: U.S. Department of Defense, 1988) 15.

²⁸Dale, 10.

²⁹Department of Defense, "Total Force Policy Report to the Congress," supplemental presented to Congress, (Washington, D.C.: U.S. Department of Defense, 1991), 472.

³⁰Department of the Army, *Division Operations*, D-1 and D-2.

³¹Pete Peterson, Mob Planner, G1, FORSCOM, personal interview by author 22 December 2003 at Fort McPherson, GA.

³²RAND, *Postmobilization Training Resource Requirements: Army National Guard Heavy Enhanced Brigades* (Santa Monica, CA: RAND, 1996), 80.

³³General Accounting Office, *Reserve Forces: Aspects of the Army's Equipping Strategy Hamper Reserve Readiness* (Washington, D.C.: U.S. General Accounting Office, February 1993), 10.

³⁴Department of Defense, "FY 1998 Reserve Component Inactivation's Closed Out Under Bottom Up Review (BUR)," 26 November 1997; available from <http://www.defenselink.mil/releases/1997/b11261997_bt635-97.html>; Internet; accessed 18 February 2004.

³⁵General Accounting Office, *Army Training: Management Initiatives Needs to Enhance Reservists' Training*, (Washington, D.C.: U.S. Government Printing Office, June 1989), 22.

³⁶RAND, *Time and Resources Required for Postmobilization Training of AC/ARNG Integrated Heavy Divisions* (Santa Monica, CA: RAND, 1998), 10-11.

³⁷John Seitz, *U.S. Army Reserve in Operation Desert Storm. Installation Operations: The Role of USAR Garrisons* (Washington D.C.: Department of the Army, August 1994), 5.

³⁸Frank M. Hudgins, *Activation/Partial Mobilization of U.S. Army Reserves and Associated Personnel Management System Problems* (Carlisle Barracks: U.S. Army War College, March 1992) 18.

³⁹John T. Correll, "The Industrial Base at War," *Air Force Magazine Online* December 1991 [journal on-line]; available from <http://www.afa.org/magazine/perspectives/desert_storm/1291industrial.asp>; Internet; accessed 26 January 2004.

⁴⁰"U.S. Transportation Command: A Short History,"; available from <<http://www.transcom.mil/history/history.html>>; Internet; accessed 13 December 2003.

⁴¹Correll.

⁴²Robert Molino, "History of the Defense Logistics Agency,"; available from <www.dla.mil/history/halloffame/Molino.htm>; Internet; accessed 29 January 2004.

⁴³General Accounting Office, *Military Base Closures: Better Planning Needed for Future Reserve Enclaves*, (Washington, D.C.: U.S. Government Printing Office, 2003), 11-16.

⁴⁴"Land Requirement Assessment from The Installation-Level Perspective,"; available from <<http://www.rand.org/publications/mr/mr1337/mr1337.ch3.pdf>>; accessed 10 March 2004.

⁴⁵Ibid.

⁴⁶General Accounting Office, *Military Base Closures: Better Planning Needed for Future Reserve Enclaves*, (Washington, D.C.: U.S. Government Printing Office, 2003), 23.

⁴⁷George Cahlink, "Erasing Bases," *GovExec.com* October 2003 [journal on-line]; available from <<http://www.govexec.com/features/1003/1003s2.htm>>; accessed 9 December 2003.

⁴⁸Dick Cheney, Secretary of Defense, *Annual Report to the President and Congress*, (Washington, D.C.: U.S. Government Printing Office, January 1990).

⁴⁹Cahlink.

⁵⁰General Accounting Office, *Military Base Closures: Better Planning Needed for Future Reserve Enclaves*, (Washington, D.C.: U.S. Government Printing Office, 2003), 11.

⁵¹Pete Peterson, Mob Planner, G1, FORSCOM, personal interview by author 22 December 2003 at Fort McPherson, GA.

⁵²Donald H. Rumsfeld, *Quadrennial Defense Review Report* (Washington, D.C.: The Pentagon, September 2001), 8.

⁵³Ibid.

⁵⁴Ibid, 10.

⁵⁵Department of Defense, "Defense Reform Initiative Decision #36 – Disposal/Demolition of Excess Structures," 5 May 1998; available from <<http://www.defenselink.mil/dodreform/drids/drid36.html>>. Internet; accessed 22 February 2004.

⁵⁶DoD News release, "National Guard and Reserve Mobilization as of January 28, 2004,"; available from <<http://www.defenselink.mil/releases/2004>>; Internet; accessed 29 January 2004

⁵⁷Alfred Jones, COL, DCS, G-3 First Army, telephonic interview by author, 10 January 2002.

⁵⁸Ibid.

⁵⁹Based on authors experience in developing Statements of Work for A-76 studies and subsequent government bidding on Most Efficient Organization. Review of Fort McPherson, Fort Gordon and Fort Drum A-76 studies in 2000 revealed that mobilization support was not considered for the study.

⁶⁰Jones.

⁶¹Ibid.

⁶²Dumlao, Ernie, Operations and Mobilization Planner, Operations and Mobilization Branch, HQIMA, telephonic interview by author, 5 January 2004.

⁶³RAND, *Time and Resources Required for Postmobilization Training of AC/ARNG Integrated Heavy Divisions*, 12.

BIBLIOGRAPHY

- Brinkerhoff, John R., Ted Silva, and John Seitz. *United States Army Reserve in Operation Desert Storm: Augmenting the Training Base: The Army Reserve in Support of TRADOC*. Arlington: ANDRULIS Research Corporation, 1994.
- Brinkerhoff, John R., Ted Silva, and John Seitz. *United States Army Reserve in Operation Desert Storm: Installation Operations: The Role of USAR Garrisons*. Arlington: ANDRULIS Research Corporation, 1994.
- Coakley, Dr. Robert W. Highlights of Mobilization, *The Korean War*. 2-3.7 AF.C. Washington, D.C.: U.S. Army Center for Military History.
- Cahlink, George. "Erasing Bases." *Government Executive* October 2003. Journal on-line. Available from <<http://www.govexec.com/features/1003/1003s2.htm>>. Internet. Accessed 9 December 2003.
- Cheney, Dick. *Annual Report to the President and Congress*. Washington, D.C.: U.S. Government Printing Office, 1990.
- Center for Military History. *History and Military Mobilization in the U.S. Army: 1977-1945*. CMH Pub 104-10. Washington, D.C.: U.S. Army Center for Military History, 1989.
- Correll, John T. "The Industrial Base at War." *Air Force Magazine Online* December 1991. Journal on-line. Available from <http://www.afa.org/magazine/perspectives/desert_storm/1291industrial.asp>. Internet. Accessed 26 January 2004.
- Dale, Ronald P. *Mobilization for Operation Desert Shield/Storm: Lessons Learned*. Strategic Research Project. Carlisle Barracks: U.S. Army War College, 8 April 1991.
- DoD News Release. "National Guard and Reserve Mobilization as of January 28, 2004." Available from <<http://www.defenselink.mil/releases/2004/>>. Internet. Accessed 29 January 2004.
- Dumlao, Ernie. Operations and Mobilization Planner, HQIMA. Telephone interview by author 5 January 2004.
- Hudgins, Frank M. *Activation/Partial Mobilization of the U.S. Army Reserves and Associated Personnel Management System Problems*. Strategy Research Project. Carlisle Barracks: U.S. Army War College, 27 March 1992.
- Jones, COL Alfred. G-3, First Army. Telephone interview by author 10 January 2004.
- "Management Aids." 26 January 1994. Available from <<http://acused.adu.gen/ww2/timelin/.html>>. Internet. Accessed 26 January 2004.
- Metcalf, David, and Douglas A. Ault. *Mobilization Readiness of Installation Support Contractors*. Bethesda: Logistics Management Institute, 1986.
- Molino, Robert. "History of the Defense Logistics Agency." Available from <www.dla.mil/history/halloffame/molino.htm>. Internet. Accessed 29 January 2004.

- O'Connor, Peter R. *Mobilization of the Army's Individual Ready Reserve: A Critical Review*. Strategy Research Project. Carlisle Barracks: U.S. Army War College, 27 March 1992.
- Office of the Assistant Secretary of Defense for Reserve Affairs. *The Reserve Components of The United States Armed Forces*. DoD 1215.15-H. Washington, D.C.: Office of the Secretary of Defense, December 2000.
- Peterson, Pete, Mobilization Planner. Interviewed by author, 22 December 2003, Fort McPherson, GA.
- RAND. *Mobilization and Train-Up Times for Army Reserve Component Support Units*. Santa Monica: RAND, 1992.
- RAND. *Postmobilization Training Resource Requirements: Army National Guard Heavy Enhanced Brigades*. Santa Monica: RAND, 1996.
- RAND. *The Readiness Enhancement Model: A Personnel Inventory Projection Model of the Army's Reserve Components*. Santa Monica: RAND, 1996.
- RAND. *Time and Resources Required for Postmobilization Training of AC/ARNG Integrated Heavy Divisions*. Santa Monica: RAND, 1998.
- Rumsfeld, Donald H. *Quandrennial Defense Review Report*. Washington, D.C.: The Pentagon, 2001.
- Shubert, Frank N. *Mobilization in World War II*. Washington, D.C.: U.S. Army Center of Military History. Internet. Accessed 23 January 2004.
- Seitz, John. *U.S. Army Reserve in Operation in Operation Desert Storm. Installation Operations: The Role of USAR Garrisons*. Washington, D.C.: U.S. Department of the Army, 1994.
- Traylor, John, Thomas Murray and James Kievit. *Examining Transformation of the Army Reserve and Army National Guard for the 21st Century*. Carlisle: Center for Strategic Leadership, 2002.
- U.S. Department of the Air Force. *Mobilization Planning*. Air Force Instruction 10-402. Washington, D.C.: U.S. Department of the Air Force, 1 January 1997.
- U.S. Department of the Army. *Army Mobilization*. Army Regulation 500-5. Washington, D.C.: U.S. Department of the Army, 7 June 1996.
- U.S. Department of the Army. *Mobilization and Demobilization Planning*. Field Manual 71-100. Washington, D.C.: U.S. Department of the Army, 19
- U.S. Department of the Army. *Reserve Component Training Development Action Plan (RC TDAP)*. FY 93 Edition. Washington, D.C.: U.S. Department of the Army, 1993.
- U.S. Department of the Army. *Transformational Planning Guidance*. Washington, D.C.: U.S. Department of the Army, 2003.
- U.S. Department of Defense. "FY 1998 Reserve Component Inactivations Closed Out Under Bottom Up Review (BUR)." 26 November 1997. Available from

- <http://www.defenselink.mil/releases/1997/b11261997_bt635-97.html>. Internet. Accessed 18 February 2004.
- U.S. Department of Defense. *Mobilization and Demobilization Planning*. Field Manual 71-100. Washington, D.C.: U.S. Department of Defense,
- U.S. Department of Defense. *Mobilization Master Plan*. DoD 3020.36-P. Washington, D.C.: U.S. Department of Defense, 1988.
- U.S. General Accounting Office. *Army Training: Management Initiatives Needed to Enhance Reservists' Training*. Washington, D.C.: U.S. General Accounting Office, June 1989.
- U.S. General Accounting Office. *Reserve Forces: Aspects of the Army's Equipping Strategy Hamper Reserve Readiness*. Washington, D.C.: U.S. General Accounting Office, February 1993.
- U.S. General Accounting Office. *Military Base Closures: Better Planning Needed for Future Reserve Enclaves*. Washington, D.C.: U.S. General Accounting Office, June 2003.
- U.S. General Accounting Office. *Military Personnel: DoD Actions Needed to Improve the Efficiency of Mobilizations for Reserve Forces*. Washington, D.C.: U.S. General Accounting Office, August 2003.
- U.S. General Accounting Office. *U.S. Corps of Engineers: Better Management Needed for Mobilization Support*. Washington, D.C.: U.S. General Accounting Office, April 1993.
- U.S. Joint Chiefs of Staff. *DoD Dictionary of Military and Associated Terms*. Joint Pub 1-03. Available from <www.dtic.mil/doctrine/jel/doddict/data/m/03450.html>. Internet. Accessed 7 December 2003.
- U.S. Joint Chiefs of Staff. *DoD Dictionary of Military and Associated Terms*. Joint Pub 1-03. Available from <www.dtic.mil/doctrine/jel/doddict/data/m/03451.html>. Internet. Accessed 7 December 2003.
- U.S. Joint Chiefs of Staff. *The Joint Doctrine Encyclopedia*. Washington, D.C.: U.S. Joint Chiefs of Staff, 17 December 2003.
- U.S. Joint Chiefs of Staff. *Joint Doctrine for Mobilization Planning*. Joint Pub 4-05. Washington, D.C.: U.S. Joint Chiefs of staff, 22 June 1995.
- "U.S. Transportation Command: A Short History." Available from <<http://www.transcom.mil/history/history.html>>. Internet. Accessed 13 December 2003.
- "WWII Stories." 1942. Available from <http://www.hbo.com/apps/brand/site/stories/curated_story.jsp?exd=5617>. Internet. Accessed 10 February 2004.

