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NATIONAL DEFENSE UNIVERSITY
JOINT FORCES STAFF COLLEGE
JOINT ADVANCED WARFIGHTING SCHOOL



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Associating Active and Reserve Aviation Units**

by

James W. Kellogg, Jr.

Lt Col, USAFR

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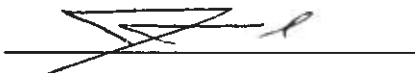
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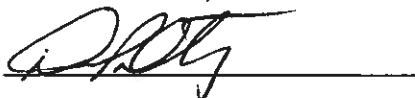
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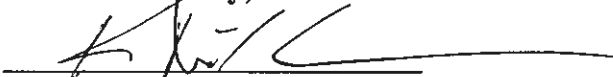
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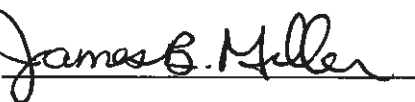
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ABSTRACT

The Department of Defense faces significant, congressionally mandated, budget reductions. The services must identify efficiencies and best practices from inside the departments, industry, and across the other services and apply them to maintain required readiness and capabilities. The services must leverage their reserve components' expertise and experience, maximize asset utilization, and maintain readiness in a fiscally constrained environment by applying the Air Force Total Force Integration unit associate model in their aviation units. This project analyzes the service's Reserve component structure and opportunities for associational advantages and opportunities.

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INTRODUCTION

The United States Air Force (USAF) has a long history of Associate Units where active duty and reserve squadrons share aircraft. The USAF first used the associate unit construct in 1968 when both active duty and reserve units flew the newly fielded C-141s and C-9s.¹ The concept grew from a study commissioned by the Air Force on roles and missions of both the regular and reserve air force. The study stated the roles should be complementary vice competitive.² Secretary of Defense Melvin Laird adopted the Total Force Concept in August 1970 and Secretary of Defense James Schlesinger implemented it as policy in 1973.³ The Department of Defense (DOD) implemented the model as it sought the proper mix of forces to meet the threat and security requirements of the day. This model grew from the initial strategic airlift units flying C-141 and C-9 aircraft to almost every mission the Air Force executes today. Lt Gen Charles Stenner, USAF (ret.), the past Air Force Reserve Command Commander, routinely briefed internal and external audiences that the USAF evaluated roles of the Air Reserve Component (ARC) consisting of the Air National Guard and Air Force Reserve, in every new mission the Air Force evaluated and the associate unit applicability within each.⁴

¹ Betty L. Kennedy, Dr. Donald C. Boyd, Stephen P. Ove, Kieth L. Barr, et al, *Turning Point 9.11, Air Force Reserve in the 21st Century, 2001-2011*, p. 24 (Robins AFB, Georgia: Air Force Reserve Command, Directorate of Historical Services, 2012)
<http://www.dvidshub.net/publication/481/turning-point-911-air-force-reserve-in-21st-century-2001-2011> (accessed December 17, 2012).

² *ibid*

³ "AFRC History 1969-1989." (Robins AFB, Georgia: Air Force Reserve Command)
<http://www.afrc.af.mil/library/history/1969-1989/index.asp>. (accessed November 2, 2012)

⁴ Stenner, Charles, Lt. Gen., Speech to AFRC Senior Leader Conference, February 4, 2010

Total Force Integration (TFI) is the term used to describe the Air Force Reserve, Air National Guard, and active duty (AD) forces working together as partners. Traditional mission sets, such as flying, maintenance, combat support, space, and new missions such as cyber operations, have AD and ARC forces executing the same mission, often sharing the same equipment, aircraft, and facilities. This allows the Air Force to leverage the cost savings and experience the ARC provides to efficiently meet the nation's national defense needs.⁵ These cost savings are significant and offer a means to maintain a capable military in a fiscally constrained environment. Programmatically speaking, the Air Force revalidated the 3:1 ratio or three reserve component members cost the equivalent of one Regular Air Force (REGAF) member. While different mission sets skew this ratio up or down, it is the general figure used when the Air Staff evaluates budgets, roles, and missions in regards to the total force.⁶

The Cold War model of an AFR Wing fully mobilizing to go fight a major contingency, and then return to peacetime training operations until the next the contingency is no longer valid.⁷ After the 1991 Gulf War, the ARC assumed an increased role as the AD component reduced manpower. After September 11, 2001, the ARC integrated seamlessly with active duty units in support of the Global War on Terror (GWOT). Operations Noble Eagle, Enduring Freedom, Iraqi Freedom, and New Dawn proved the RC's value and mission effectiveness.

As major combat operations conclude after a decade of war, service budgets will undoubtedly decrease, and with the services forecast to shrink, today's military leaders

⁵ ibid

⁶ ibid

⁷ ibid

must seek efficient and effective means to meet the nation's defense requirements. In that regard, The USAF effectively employs the associate model as its answer to maintain force readiness and capabilities.

Recently, the Vice Chairman of the Joint Chiefs of Staff and Assistant Secretary of Defense for Reserve Affairs commissioned a study entitled *Comprehensive Review of the Future Reserve Component Roles* that described the importance of the RC and as “an irreplaceable and cost-effective element.”⁸ It recognized they provide operational forces that “provide vital capabilities, forces for large-scale conventional campaigns, balance stress across the Total Force, include a larger portion of American citizenry defending the nation's interest, and help preserve the all-volunteer force.”⁹

The review further states while operationally leveraged, it is essential the RC maintains its strategic depth. In this vein, today's senior leaders actively seek roles and mission where the Reserve Component is the “force of first choice”¹⁰. Along with evaluating preferred mission sets, the review found Guard and Reserve missions should also realize, “Optimal utilization rates for expensive assets (such as aircraft) resulting from sharing equipment and facilities between Active units and their associated RC units.”¹¹ Aviation units inherently lend themselves to this direction. Using the Air Force's associate model, the Services will be able to capitalize on the experience and tenure of RC aviators and maintainers, maximize aircraft utilization, and ensure the Total Force is ready to deploy without lengthy mobilization training. The applicability of the

⁸ *Comprehensive Review of the Future Role of the Reserve Component*. p. 4 (Department of Defense, Washington D.C., April 5, 2011)

⁹ Ibid p. 5

¹⁰ Ibid

¹¹ Ibid, p.33

model is dependent upon the force structure and construct of the reserve force in each Service. This project will analyze each service's RC aviation units and suggest opportunities where associated units offer an economy of force while making operational and fiscal sense.

Thesis Statement

As the nation prepares to downsize the active component following a decade of conflict, the challenge to the national security strategist is to maintain capability. The services should identify and apply efficiencies and best practices from inside the departments, industry, and across the services to maintain required readiness and capabilities. The Services must leverage their Reserve Components' expertise and experience, maximize asset utilization, and maintain readiness in a fiscally constrained environment by adopting the Air Force Total Force Integration unit associate model in their aviation units.

RESERVE COMPONENT STRUCTURE AND ORGANIZATION

The United States Armed Forces Reserve consists of seven components with a federal mission. Two of those, the National Guard and Air National Guard execute an additional state mission and are dual hatted depending on the tasking and mission.¹ The 1997 fiscal year National Defense Authorization Act directed each service to formalize the reserve forces as Reserve Commands.² These commands are federal forces and are subject to Title 10 provisions in U.S. code, tracing their chain of command through their service chiefs. Uniquely, the chain of command for the Army and Air National Guard flows from the President of the United States for federal missions (Title 10) and from their state's governor when accomplishing state missions (Title 32).³ Figure one shows command relationships and how those relationships differ between National Guard and Reserve Forces.

¹ Deavel, Richard, Under Secretary of the Air Force, Reserve Affairs. Office of the Assistant Secretary Defense Reserve Affairs Command Brief, May 11, 2012

² Kennedy, *Turning Point 9/11, AFR in the 21st Century*, p.39

³ Title 10 and Title 32 refer to the section of US Code or law governing these forces.

THE DIFFERENCE BETWEEN THE NATIONAL GUARD & RESERVES

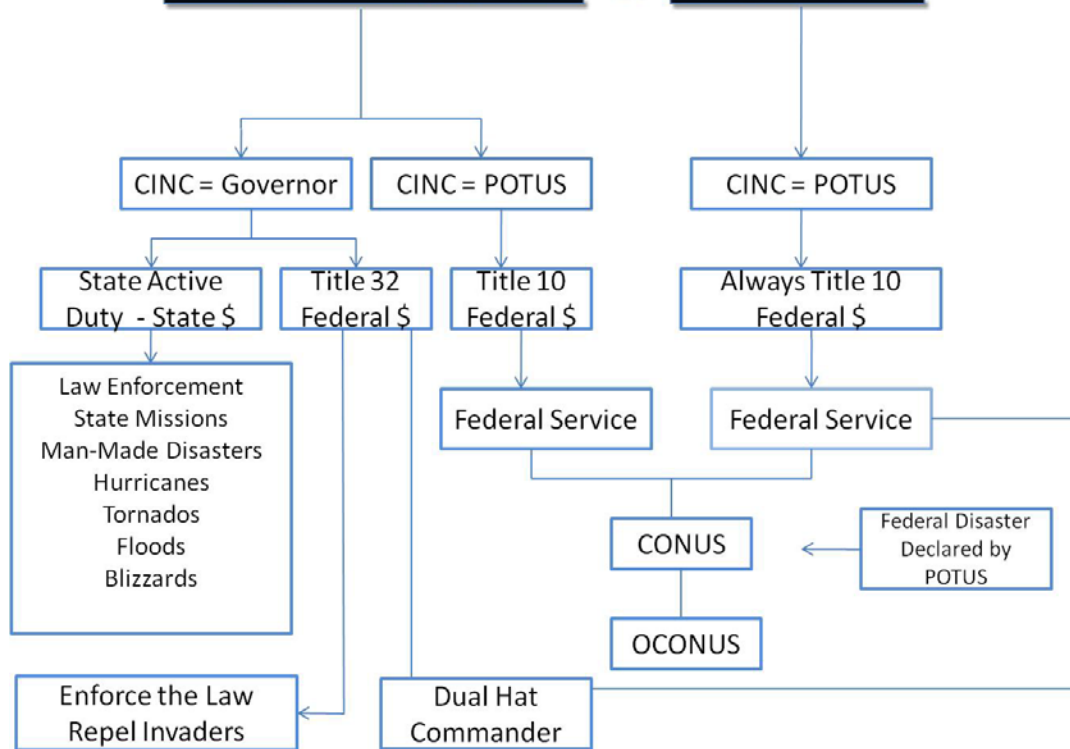


Figure 1. Guard and Reserve Differences and Chains of Command⁴

The Militia, National Guard, and Reserve-A Historical Perspective

Our nation's force structure traces its roots to English feudalism and early England's military tradition. English noblemen maintained their own militias, which were theoretically, subject to royal military ventures when called upon by the King or Queen of England.⁵ Thus, as English colonist migrated to North America, they arrived with the local militia paradigm firmly ingrained. As the budding colonies grew and fought for survival, they relied upon, manned, and rigidly enforced militia service. These early militias followed three primary principles:

⁴ Office of the Assistant Secretary Defense Reserve Affairs Command Brief, 2012

⁵ Wilson, B.; The Guard and Reserve in the Total Force, The First Decade 1973-1983; 1985 p.10

1. Militias relied upon local recruiting often including officer elections. Very often, officers were civil leaders in positions of trust, responsibility, and authority.
2. Members served short periods of active duty, primarily in response to immediate threats.
3. Militias generally had territorial restrictions limiting service to the colony's vicinity.⁶

All able-bodied men in a colony participated in the militia. The social and economic implications of this dictated service met only immediate threats as prolonged terms of service hampered the colony's ability to meet its needs. This militia model became the preferred American military force structure from the initial colonies until just prior to the turn of the 20th century.⁷

The formula changed with the Spanish-American War in 1898 and a policy shift towards a larger standing army. Different factions, those who favored a Continental European system with conscription and a large standing reserve force and those who favored the state militia or National Guard (status quo) as it became known, vied for doctrinal direction.⁸ There was great tension between the two factions and ultimately the politics of state controlled militias prevailed in both the House of Representatives and Senate. Tensions did not abate and National Guard leaders grew to distrust the regular Army leadership. Likewise, many on the general staff held the National Guard in disdain.⁹

⁶ Wilson, B.; *The Guard and Reserve in the Total Force, The First Decade 1973-1983*; 1985, p. 12

⁷ *ibid* p.14-17

⁸ The term National Guard was first coined by Marquis de Lafayette in 1790 but it is unclear when the term was formally recognized when describing U.S. state militias.; Tucker, Spencer C. (2009). *The Encyclopedia of the Spanish-American and Philippine-American Wars: A Political, Social, and Military History*. ABC-CLIO. pp. 404–405

⁹ Wilson, B.; *The Guard and Reserve in the Total Force, The First Decade 1973-1983*; 1985 p.14-17

Between 1903 and 1920 Congress enacted three measures that struck compromise between the two camps. The Dick Act of 1903, National Defense Act of 1916, and National Defense Act of 1920 accomplished the following:

1. They created a large (in U.S. terms) standing, voluntarily recruited regular army.
2. The Acts established Federal Reserve forces that primarily served in support, specialist, and technical missions while the National Guard maintained primary responsibility for combat forces.
3. Federal control, involvement, and financial support increased without lessening the Guard's state roles, missions, and responsibility.
4. A Reserve Officer Training Corps (ROTC) program was established at select universities. Designed to produce Reserve commissioned officers, students voluntarily enrolled in ROTC.¹⁰

Today's Reserve Component largely resembles the structure established by these three Acts. Though the structure is similar, the forces at the time were substandard in terms of training, equipment, fitness, and lacked professionally competent middle-grade and senior officers. Consequently, upon mobilization, the reserve forces required extensive pre-deployment training. In sum, there was little distinction between the RC's training requirement and that of the conscripts called to fight both world wars. Fortunately, the United States faced no direct threat to the homeland and thus created time and space to properly train, equip, and deploy its armed reserves.¹¹

Post World War II Reserve Structure

General George C. Marshall, in his final World War II report to Secretary of War, wrote, "probably the most important mission of the regular Army is to provide the knowledge, the expert personnel, and the installations for training the citizen-soldier,

¹⁰ Wilson, B.; The Guard and Reserve in the Total Force, The First Decade 1973-1983; 1985 p.22-23

¹¹ Ibid

upon whom, in my opinion, the future peace of the world largely depends.”¹² Marshall had extensive experience with the RC and saw value in the writings and design of his friend, John McAuley Palmer.

At the turn of the 20th century, Palmer was one of a very few who championed the RC and cautioned against a large standing regular army. As many on the Army General Staff saw little use for state based militia,¹³ Palmer purported views often at odds with established leaders. Palmer studied the Swiss militia system and lessons learned as they applied to the United States’ defense and advocated a similar reserve force structure with three functions where a regular army was required:

1. Garrison requirements of strategic possessions and positions such as Guam and Hawaii where Reserves were not readily available (at the time).
2. A limited number of active duty divisions maintained at full strength to meet a crisis or sudden deployment.
3. A minimum number of Regular component officers to provide assistance and administration for the Reserve components.¹⁴

Today’s current total force structure with National Guard and Reserve units led by fellow component members and advised by active component members strongly resembles that envisioned and advocated by Palmer more than 70 years ago.¹⁵

Today’s Reserve Components

Despite efforts to strengthen the RC following World War II, it was ill-prepared for the Korean conflict. In an effort to rectify poor RC readiness, Congress passed the Armed Forces Reserve Act of 1952 in an effort to rejuvenate all Service RC. It created

¹² Wilson, B.; *The Guard and Reserve in the Total Force, The First Decade 1973-1983*; 1985 p. 46

¹³ It is this author’s experience many in today’s senior leader ranks still hold similar views.

¹⁴ Wilson, B.; *The Guard and Reserve in the Total Force, The First Decade 1973-1983*; 1985; p.37

¹⁵ *ibid*; p.38-39

three categories of reserve forces: Ready, Standby, and Retired. Each category carried different readiness requirements and varying levels of authorization for mobilization. The Ready Reserve encompassed participating guardsmen and reservist. Today's AD and RC relationship, enacted in 1952, traces its roots back to Palmer's vision.

Little changed until late into the Vietnam era when, on August 21, 1970, Secretary of Defense Melvin Laird wrote a letter to the Service Secretaries and Joint Chiefs expressing support for the Guard and Reserve. He formally directed Guard and Reserve units be prepared as the initial and primary force to augment the active forces for future emergencies. He directed the Assistant Secretary of Defense, Manpower and Reserve Affairs coordinate and monitor actions to increase readiness and reliability. Furthermore, he directed the Services to equip the RC with standard combat equipment, provide full time support personnel at full authorization levels, and program adequate resources to achieve required readiness levels.¹⁶ Laird coined the term Total Force and directed budget requests for 1972 and beyond reflect his mandate. The concept was to apply to all aspects of defense planning.¹⁷

Laird's successor, James Schlesinger, in an August 23, 1973 letter to the same audience declared that Total Force was no longer a concept. He declared Total Force was policy integrating the Active, Guard, and Reserve forces into a homogenous whole.¹⁸ This set the stage for RC revitalization throughout the 1970s and 1980s. This event, coupled with Army Chief of Staff General Creighton Abrams' determination never to

¹⁶ Turning Point 9/11, The Air Force Reserve in the 21st Century, p.38

¹⁷ *ibid*; p. 37

¹⁸ *ibid*, p. 38

fight another war without the Guard and Reserve, began two decades of increased capabilities resident within the RC.

In 1976, Congress passed Presidential Selected Reserve Call-Up (PSRC) legislation which gave the President the authority to involuntarily mobilize up to 50,000 (later increased to 100,000) Selected Reserve members for up to 90 days without declaring an emergency. Operations Desert Shield and Desert Storm were the first time the President used his PSRC authority to recall Reservists and Guardsmen involuntarily.¹⁹ In all, more than 267,000 citizen soldiers, airmen, sailors, marines, and Coast Guardsmen mobilized in support of the Gulf conflict.²⁰ This proved a significant event and the RC increasingly met the nation's call as part of an integrated total force.

Today's statutes give PRC authority for up to 200,000 Selected Reserve members and length of tours up to 365 days. The table below shows the President's mobilization authorities and those subject to recall according to U.S. code. The Act also made it easier for RC members to volunteer. Before the Gulf War, planners seldom considered the RC providing volunteer support, hence all campaign planning worked under the assumption of mobilized forces. By August 23, 1990, more than 4000 Air Guardsmen²¹ and 15,000 Reservists²² volunteered for active duty tours in support of Desert Shield. Notably, the Strategic Air Command (SAC) historians acknowledge that without the flexibility this

¹⁹ Army Force Management School Course Reference Material, Book 3; June 2008, p. 8

²⁰ John Winkler, Barbara Bicksler, Thomas Hall. *The New Guard and Reserve*: (San Ramon, CA: Falcon Books, 2010); p.6

²¹ Charles Goss. *Air National Guard and The Military Tradition, Militiaman, Volunteer, and Professional*, (Washington D.C.: National Guard Bureau, 1995), p.145

²² Turning Point 9/11, p.35

volunteerism added, SAC might not have met its defined support requirements.²³ In all, over 8,000 Guardsmen volunteered for tours in support of the conflict and this does not include those who volunteered for mobilization or activation orders.²⁴

Title 10 USC	Authority	Flexibility	Sufficiency
12301(a) Full Mobilization	- Requires Congressional declaration of War or National Emergency - Requires Congress in Session	- Appropriate only for very major contingency	- All Reservists including members in an inactive status and retired members - No number limitation - Duration of war or emergency plus 6 mos
12302 Partial Mobilization	- Requires Presidential declaration of National Emergency	- Appropriate for Major Theater Wars - Used since 9/11	- Not more than 1,000,000 Ready Reservists - 2-year duration
12304 PRC (Presidential Reserve Call-up)	- Requires Presidential notification of Congress - No declaration of National Emergency	- Augment active duty forces for operational missions, WMD	- Not more than 200,000 at one time - Selected Reserve - Limited to 365-day duration - Up to 30,000 IRR
12301(d) Volunteers	- Requires consent of individual RC member - Governors must consent to Guard voluntary activation	- Doesn't assure C2 and/or unit integrity	- All Reservists - No number limitation - Uncertain yield - No duration stated

Figure 2. Mobilization Chart²⁵²⁶

The chart reflects the flexibility and depth of the nation's RC as well as the authority required as the force augmentation need grows.

Though still a strategic force, the services increasingly leveraged their RC throughout the 1990s. The reserve contributions grew to support missions and contingencies throughout the world. Steadily climbing between 1992 and 1996, the combined Reserves served over 13.5 million duty days in 1996 and maintained a

²³ Goss, Air National Guard and The Military Tradition, Militiaman, Volunteer, and Professional, p.145

²⁴ Ibid, p. 145; It is the author's personal experience that many Reservists and Guardsmen ask for mobilization orders due to inherent employment protections provided there-in.

²⁵ Air Reserve Component Briefing; Deavel, R., Deputy Assistant Secretary of Reserve Affairs; 2010

²⁶ WMD, Weapons of Mass Destruction; IRR, Individual Ready Reserve; C2, Command and Control

participation level between 12 and 13 million until September 11, 2001. Mass mobilizations after September 11, 2001 in support of Afghanistan and Iraqi operations drove those numbers over 68 million duty days in 2005.²⁷ As the nation enters the twelfth year of ongoing hostilities, the National Guard and Federal Reserve components continue to serve with distinction. Today's total force, 40 years after Secretary Laird's letter and twelve consecutive years of combat, is closer to Laird's vision than ever before.

Economy of Force

The combined service RCs, according to former Assistant Secretary of Defense for Reserve Affairs, the Honorable Dennis McCarthy, comprise 43 percent of our nation's military end strength while only consuming nine percent of the total defense budget.²⁸ Fiscal responsibility dictates the services leverage this economic advantage. This is especially true in light of declining budgets, severely constrained fiscal environments, and expensive weapon systems as the services re-equip and replace aged, obsolete, and worn out equipment. As the nation prepares to downsize the AC following a decade of conflict, the challenge to the national security strategist is to maintain capability. As service chiefs rebalance the force, RC integration offers economies of force, a more ready and responsive reserve force, and an opportunity to capture experienced and proven mid-level officers and enlisted ranks as they transition from active military service to civilian careers. Retaining this talent in the RC offers the DoD continued return on its training investment and capitalizes on the RCs cost advantage.

²⁷ Air Reserve Component Briefing; Deavel, R., Deputy Assistant Secretary of Reserve Affairs; 2010

²⁸ Charles Stenner, Lt. Gen., HASC testimony update, 21 Apr 10

The cost of a Reservist or Guardsman as compared to an active component member varies across the mission set and participation levels. Understandably, aviation units require higher participation rates and increased duty days so aircrews can maintain currency and proficiency in their weapon systems. The USAF uses a costing model of three Reservists to one active duty member programmatically.²⁹ In its final “Fully-Burdened and Life Cycle Cost of Military Personnel” report to the Secretary of Defense, the Reserve Forces Policy Board found the total costs Per-Capita again validated the 3:1 ratio as shown in the chart below.



	Active Component	Reserve Component
Military Personnel Account Costs*	\$ 84,808	\$ 26,033
DoD Defense Health Program	\$ 19,233	\$ 8,157
DoD Dependent Education	\$ 2,034	\$ 33
DoD & Service Family Housing	\$ 1,235	\$ -
DoD Commissary Agency	\$ 996	\$ 49
TOTAL DoD Compensation Costs	\$ 108,307	\$ 34,272
O&M (Less DoD Dependent Education)	\$ 110,532	\$ 26,477
Procurement	\$ 71,601	\$ 3,771
Military Construction	\$ 5,556	\$ 1,512
RDTE & Other	\$ 34,348	\$ 34,348
TOTAL DoD Non-Compensation Costs	\$ 222,037	\$ 66,108
Dept of Defense Grand Total	\$ 330,343	\$ 100,380
Dept of Education "Impact Aid"	\$ 355	\$ 9
Dept of Treas - Concurrent Receipt	\$ 4,514	\$ 747
Dept of Treas - MERHCF	\$ 3,264	\$ 2,230
Dept of Treas - Mil Retirement	\$ 39,800	\$ 13,638
Dept of Veteran Affairs	\$ 6,334	\$ 6,334
Dept of Labor for Vet Education / Training	\$ 12	\$ 12
TOTAL COST TO US GOVERNMENT	\$ 384,622	\$ 123,351

* Includes DoD contributions to MERHCF and Military Retirement Accrual

Figure 3. FY 2013 Fully-Burdened Per-Capita Cost to US Government³⁰

Another study conducted by Jennifer Buck again validates the 3:1 ratio while in garrison. Her Active versus Reserve Brigade Combat teams analysis stated the Reserve teams were

²⁹ AF/RE revalidated the 3:1 ratio in 2009 while the author served on the AFRC/CC's Action Group.

³⁰ Stewart, J., Maj. Gen.; *Eliminating Major Gaps in DoD Data on the Fully-Burdened and Life-Cycle Cost of Military Personnel*; Reserve Forces Policy Board; December 12, 2012

28 percent the cost of the active forces. However, Reserve forces when used as part of a rotational force (based on “one-year-in-six” rotation) increase to 40 percent of the active force expense. If more than one team is required, her data shows costs climb as high as 120 percent the active component.³¹ Thus, when services evaluate RC opportunities and mission sets they must use a costing model that best represents the envisioned operations tempo. Proper modeling will ensure the proper active-reserve component mix and appropriately balance the demands across the total force.

Air Force

Air National Guard

Post World War II planning initially saw little support for National Guard or Reserve aviation units. Political and fiscal realities greatly influenced the final vision, compromises, and proposed force structure. Although many could not envision a legitimate state mission for the ANG, political pressure and the Army Air Corps’ drive to become a separate service needing support proved persuasive. Ultimately, every state would receive a minimum of one Air National Guard squadron.³² As graphically displaying locations and aircraft flown is impractical, [Appendix I](#) list units, locations, and aircraft by state and territory.

In addition to organizational and mission debates, friction increased between the Air Force, Air Guard, and Air Force Reserve, particularly as resources and funding declined. Combined with the newly formed National Guard Bureau asserting its role in policy and fiscal decisions, there was a large initiative to federalize all Reserve forces and

³¹ Winkler, J., Bickler, B. *The New Guard and Reserve*. (San Ramon, CA: Falcon Books, 2008), p. 182-183

³² Ibid, p.61

abolish the National Guard altogether. This initiative found little support in Congress and ultimately failed. It did however further increase the mistrust of big Army and Air Force among all National Guard leaders, Air and Army.³³ Post-war budget reductions, lack of equipment and proper training, and a questionable ANG mission led to a general apathy towards the ANG.³⁴ The acrimony between active duty and RC leaders, over 50 years in the making, continued until the 21st century in the Army, but the Air Force overcame much of this in the 1990s.

When the 1952 Armed Forces Reserve Act defined the three participation categories, it also provisioned volunteerism where Reservists could volunteer to integrate into active duty units for defined periods. This ability to integrate reserve forces for peacetime and continental air defense runway alert missions proved a segue to a more integrated active and reserve component Air Force, particularly as reliance on Air Guard and Reserve participation gradually increased. The runway alert program began as an experiment in 1953 where Guardsmen maintained a five-minute alert posture as an interceptor defense force. The concept proved highly successful and by 1961, 25 ANG fighter squadrons maintained a 24 hour, 7 day a week alert commitment. By 1992, 100 percent of the Continental United States' air defense mission resided in the ANG.³⁵

Throughout the 1950s and 1960s, the ANG grew in capabilities and stature. Air Force operational plans now accounted for both Air Reserve and Guard forces, equipment modernization was ongoing, and units were training to the same standard as their REGAF counterparts. The Air Guard contributed to the 1961 Berlin incident where

³³ Goss, *Air National Guard and The Military Tradition, Militiaman, Volunteer, and Professional*, p.67

³⁴ *ibid*

³⁵ *ibid*, p.87

the Soviets attempted to dislodge Western powers from West Berlin and eventually built the now defunct Berlin Wall. They also mobilized in response to the Pueblo incident and Tet Offensive of 1968. The 1970s saw the Air Guard again validate its operational capabilities and contributions in the European Theater. With a shortage of REGAF tankers and crews, the ANG filled a significant aerial-refueling capability gap from 1967-1977.³⁶ However, as the Total Force became DoD policy in the 1970's, differing views towards the USAF's new Associate Model would omit the ANG from the strategic airlift mission for well over a decade.

As the 1980s progressed, President Regan grew defense budgets and both the Air Guard and Reserves began receiving new front-line equipment vice the REGAF legacy systems of years past. With the same front-line weapons systems and increased training, the ARC was at a level of peacetime readiness never achieved before. This investment would reap significant dividends as Iraq invaded Kuwait on August 2, 1990.

The Gulf Crisis

The initial allied response to contain Saddam Hussein's aggression towards Kuwait was Operation DESERT SHIELD, which then grew into DESERT STORM as hostilities commenced in January 1991. The required rapid troop buildup of forces in the region exceeded assets and forces available to the service's active components. Because Total Force policies invested billions of dollars into the ARC over the preceding 20 years, it was now a first line, combat capable force. Coupled with force shaping policies driven by declining defense budgets, the ARC now possessed 92 percent of the CONUS based interceptors, 60 percent of tactical reconnaissance, 74 percent of rescue and

³⁶ Goss, Air National Guard and The Military Tradition, Militiaman, Volunteer, and Professional, p.117

recovery forces, 25 percent of the refueling and 17 percent of the strategic airlift missions. In short, the USAF relied on its RC to conduct major military operations and President Bush accessed that capability by granting mobilization authority on August 22, 1990.³⁷

The Gulf War highlighted a significant need for RC forces that served in combat support roles. Strategic airlift, tactical airlift, base operating support, aerial refueling assets, and aeromedical evacuation units were in much higher demand than combat flying units. The support role requirement, combined with high rates of volunteerism, led to units tailoring packages or Unit Type Codes (UTCs) deployed in theater. This was a significant departure from existing policies and proved a pragmatic approach to meet the challenges of the day.³⁸

In all, Operations Desert Shield and Desert Storm validated the Total Force policy, structural changes, and increased funding spent on the ARC. Lieutenant General Horner, the campaign's Combined Air Forces Component Commander (CFACC) stated, "they (the ARC) were fundamental to everything we did" and "on the whole, I couldn't tell a Guard from active-duty or Reservist rank, other than the way they painted their equipment."³⁹ The ARC proved its metal and demonstrated front-line unit readiness, capabilities, and performance. This set the stage for an increased reliance on the RC throughout the remainder of the decade and into the next century.

³⁷ Goss, *Air National Guard and The Military Tradition, Militiaman, Volunteer, and Professional*, p.141-145

³⁸ *Ibid*, p. 149

³⁹ *Ibid*, p. 159-160

Air Force Reserve

“At present there are not enough modern airplanes for even the 500 Regular officers of the Air Corps to leap into, and even if the planes for them existed, the civilians would require months of training before they could fly them and fight effectively. Meanwhile someone must do the fighting, or some of the fighting, if there’s anything to fight in, lest we use up all our Regulars before they have trained the more simple-minded civilians. This is where the Air Corps reserve comes in.”

-Cy Caldwell, *“Preserve our Air reserve: Aero Digest, July 1936 on the eve of House Bill 12241 for Reservists flight pay, hospitalization, and death benefits.”*⁴⁰

The United States Air Force Reserve (AFR) is an USAF major command (MAJCOM) headquartered at Robins Air Force Base, Georgia. The Air Force Reserve Command (AFRC) commander is dual hatted and serves as the Chief of Air Force Reserve (CAFR).⁴⁰ In these roles, he or she not only commands the second largest USAF MAJCOM, but is also the principle advisor for reserve policy.

The command is comprised of over 71,500 full and part-time reservists and has the Air Reserve Personnel Center (ARPC), the Force Generation Center (FGC), and three numbered Air Forces: 4th, 10th, and 22nd. Subordinate to the numbered Air Forces are 34 wings and 7 groups spread across the United States with facilities at 66 locations.⁴¹ The ARPC is a Total Force human resource center for both the Air Force Reserve and Air National Guard. The FGC provides visibility of reserve forces deployed in support of operations across the globe and is the entry point into the AFR for combatant commands requesting reserve force augmentation.⁴² The AFR maintains more than 340 aircraft,

⁴⁰ Air Force Reserve Mission Brief, HQ AFRC/CCX, Robins AFB, GA. 2012

⁴¹ AF Portal, AFRC Organizations, <https://www.my.af.mil/gcss-af/USAF/ep/index.do?command=subOrg&channelPageId=s6925EC13560D0FB5E044080020E329A9>

⁴² SAC-D AF/RE Testimony, p. 9

flies more than 117,000 hours annually, and maintains the same readiness as REGAF forces with approximately four percent of the Air Force budget.⁴³

The command and mission evolved from a stand-by force (as envisioned by President Truman in 1948) to the operationally leveraged strategic reserve it is today.

Figure 5 shows the current command relationships.

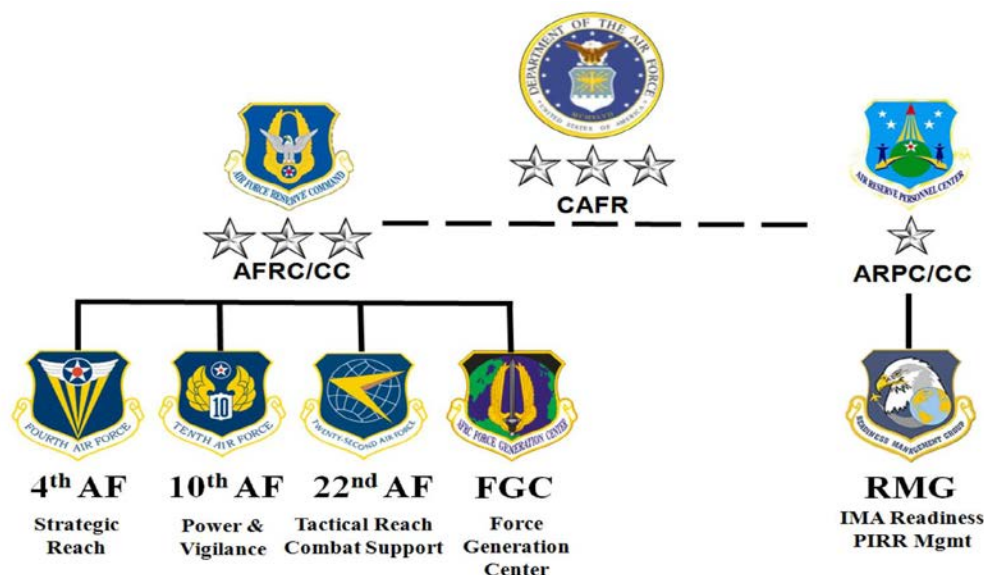


Figure 4. Air Force Reserve Organization Chart⁴⁴

Organized according to missions and capabilities, three numbered Air Forces report to the AFRC Commander (AFRC/CC). The 4th Air Force predominantly owns the Strategic Reach forces, meaning its 15 wings and one stand-alone flying group fly aircraft enabling power projection, namely aerial refueling aircraft (KC-135 and KC-10) and strategic airlift assets (long range, heavy lift aircraft such as the C-17 and C-5). Three wings are classified Air Mobility Wings as they execute both aerial refueling and strategic airlift missions, seven are Airlift Wings, five are aerial refueling wings, one stand-alone

⁴³ SAC-D Testimony, p. 6

⁴⁴ AFR Mission Brief

refueling group (931st ARG), and two Regional Support Groups (604th RSG, 624th RSG) also report to 4th AF but their mission is strictly administrative.⁴⁵ The 10th Air Force, the Power and Vigilance Air Force, owns five fighter and attack wings, one stand-alone fighter group, one bomber wing, one space wing, one rescue wing, two stand-alone rescue groups, one Regional Support Group, and one Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) wing which operates Remotely Piloted Aircraft (RPAs) such as the Predator, Reaper, and Global Hawk.⁴⁶ The 22nd Air Force is the Tactical Reach and Combat Support Air Force. Tactical airlift wings make the preponderance of 22nd AF forces flying C-130 aircraft. The 340th Flying Training group (FTG) associates with REGAF Undergraduate Pilot Training (UPT) units and 22AF Detachment 1 is an associate unit training C-130 crews. The 413th Flight Test Group is a standalone group responsible for flight test operations at logistical centers.⁴⁷ The figure below shows the AFRC flying wings and groups and the command's 66 unit locations.

⁴⁵ AFRC Web page, <http://www.afrc.af.mil/units/> (accessed August 15, 2012)

⁴⁶ ibid

⁴⁷ ibid

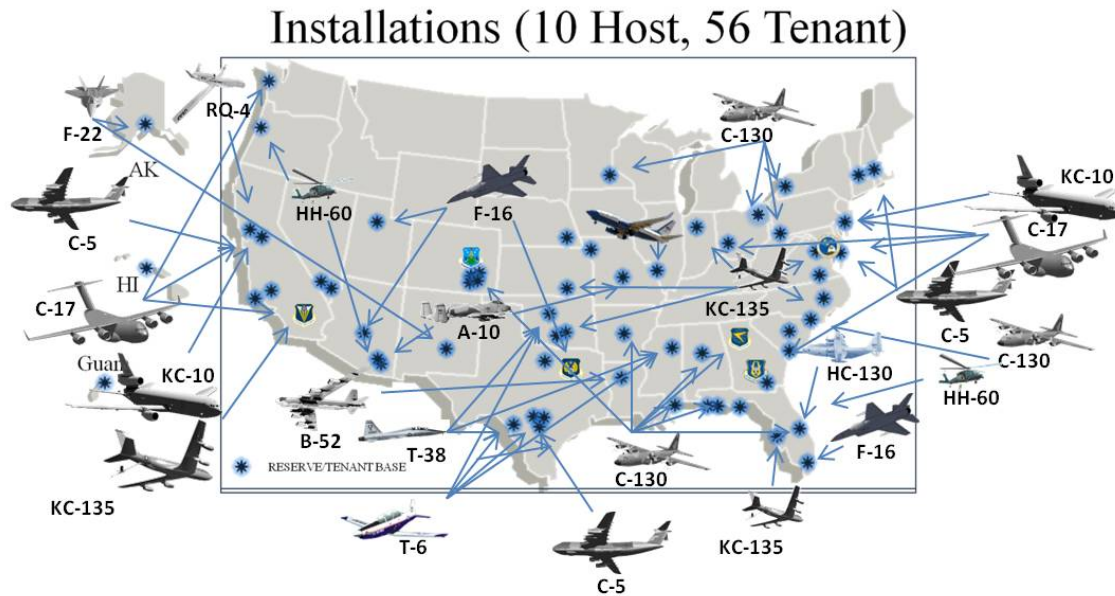


Figure 5. Air Force Reserve Command Flying Wings and Groups⁴⁸

The AFR transformed from a primarily strategic reserve to an operationally leveraged reserve in the 1990s. The shift began during the Persian Gulf War where by August 20, 1990, 18 days after Saddam Hussein's Iraqi Army pushed south and invaded Kuwait, more than 15,000 Air Force Reservists performed duty in support of the war effort. By conflict's end, mid-April 1991, the AFR accounted for more than 239,000 hours flown, 310,000 passengers and 560,000 tons of cargo moved, and almost 10 million gallons of fuel off-loaded during aerial refueling operations.⁴⁹ Reserve tactical air assets flew more than 1,400 sorties, 3,300 hours and Reserve special operations forces more than 100 missions and 265 hours. At the peak of the Gulf War crisis, approximately 23,600 mobilized and 15,000 volunteer Air Force Reservists served.⁵⁰

⁴⁸ AFRC Web page, <http://www.afrc.af.mil/units/>

⁴⁹ Kennedy, *Turning Point 9/11*, p.35

⁵⁰ *ibid*, p.36

The remarkable contributions during the Gulf War were foretelling of ever increasing ARC contributions to worldwide operations throughout the next two decades.

At the end of the Cold War, the United States reduced the size of its military to reap the so-called peace dividend. Personnel stationed overseas transferred to the contiguous United States and bases closed but conflicts kept simmering under the surface during the Cold War began to erupt. Increasingly, U. S. forces deployed around the globe in support of various low level conflicts including the Balkans, Iraqi no-fly zone enforcement, and humanitarian efforts in Mogadishu among others. This increased operations tempo combined with a significant refueling, airlift, and combat air capabilities resident in the RC meant the nation increasingly turned to its reserve air forces. This “began a new era as a strategic reserve whose resources would be continually drawn upon for operations around the world.”⁵¹ As the 1990s taxed REGAF units and stretched resources throughout the decade, AFR forces, in particular, supplemented and augmented the REGAF forces. During Operation ALLIED FORCE (Serbia and Kosovo) alone, mobilized and volunteer Reservists accounted for more than 150,000 mandays. AFR participation and integrated operations continued at high levels throughout the 1990s. A decade of ever-increasing interoperability proved pivotal when terrorist attacks of September 11, 2001 thrust the nation into a war that would define the first decade of the 21st century. The USAF began the war with a highly integrated, capable, and effective force.

⁵¹ Kennedy, *Turning Point 9/11*. pg. 39

Army

Army Aviation

Army aviation just celebrated its 70th anniversary on June 6, 2012.⁵² Originally called organic Army aviation to differentiate it from the Army Air Corps, that later became the USAF in 1947. The organic aviation units, assigned to battalions, brigades, and divisions, flew in direct support and under the control of the designated unit commander. Though rotary wing aircraft are now synonymous with Army Aviation, the Army did not field its first cargo and utility helicopter until 1952. The Army's delay in fielding helicopters was due in large part to friction with the newly formed Air Force who at the time had oversight on Army aircraft procurement. Rotary wing aircraft did not fit the Air Force's paradigm and many Air Force leaders saw little use for the helicopter. Originally, its primary missions were rescue, aero-medical evacuation, and similar missions.

The Army, however, saw value in the helicopter and began developing doctrine and tactics that would lead to the Air Cavalry. Originally described in an article Major General James Gavin entitled "*Cavalry, and I Don't Mean Horses*," many in Army aviation saw the helicopter as a remedy to the lack of mobility cavalry forces lacked in the Korean conflict.⁵³ In the 1950s, the Army experimented with arming helicopters. Though many in and outside of the Army doubted an armed helicopter would have the survivability required, a few visionaries sought to validate the concept. Colonel Jay Vanderpool and his band of "Vanderpool's Fools" armed the first Army helicopter and

⁵² Army Aviation History; <http://www.aircav.com/histavn.html> (accessed January 16, 2013)

⁵³ *ibid*

created the Army's first gunship.⁵⁴ From these rather auspicious beginnings grew what is now the Army's robust air arm. Today the Army operates ten different fixed wing aircraft types and eleven different types of helicopters.⁵⁵ The Army's RC aviation units align under two Theater Aviation Commands (TAC).

The 11th TAC, headquartered at Fort Knox, Kentucky, is Army Reserve and the 66th TAC, headquartered at Fort Lewis, Washington, is Army National Guard. Subordinate to the TACs are six battalions and groups, two Reserve and four Guard. The 77th Theater Aviation Brigade (TAB) is National Guard but subordinate to the 11th TAC when federally activated. The organizational charts are in the figure below.

⁵⁴ Brady, M., *Vanderpool's Fools-And the Creation of the Attack Helicopter*", Army Aviation Magazine, December 31, 2012, p. 70-73

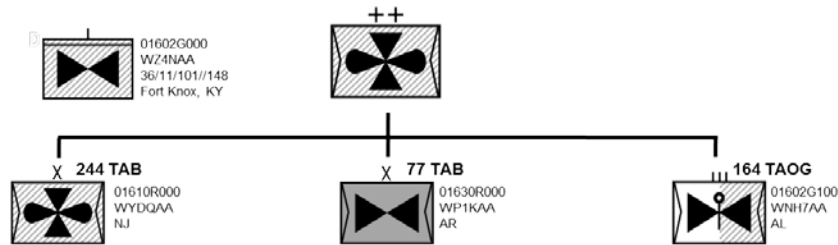
⁵⁵ 2013 U.S. Army Weapon Systems Handbook; <http://www.fas.org/man/dod-101/sys/land/wsh2013/wsh2013.pdf>



Compo 1, 2, 3
TPSN: 30111
USARC

11th Theater Aviation Command

114 UH-60
90 HH-60
36 CH-47



Compo 1, 2, 3
TPSN: 30166
ARNG

66th Theater Aviation Command

122 UH-60
120 HH-60
48 CH-47

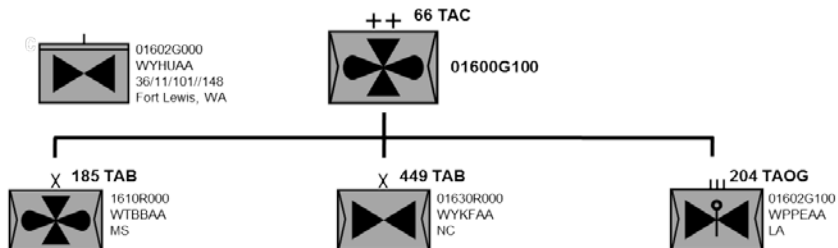


Figure 6. Army Reserve Component Theater Aviation Commands⁵⁶

Army National Guard

There is an Army National Guard (ARNG) aviation unit in every state, Washington D.C., Puerto Rico, and Guam.⁵⁷ The units vary in size, equipment, and mission but there is a presence of some sort throughout the nation. Unit locations and equipment are in [Appendix II](#). Categorized as Critical Dual Use assets (CDUs), aviation units are required for state missions, Homeland Defense, security, and crisis response as well as overseas contingency operations. This CDU classification creates friction between competing state and federal priorities. When not federalized, the ARNG uses a similar chain of command as the ANG and both components report to their respective state governor through the state's Adjutant General (the state's senior military officer).

⁵⁶ Lieutenant Colonel William Wynn, US Army. US Army Aviation Combat Readiness/Safety Center. (email March 20, 2013)

⁵⁷ *ibid*

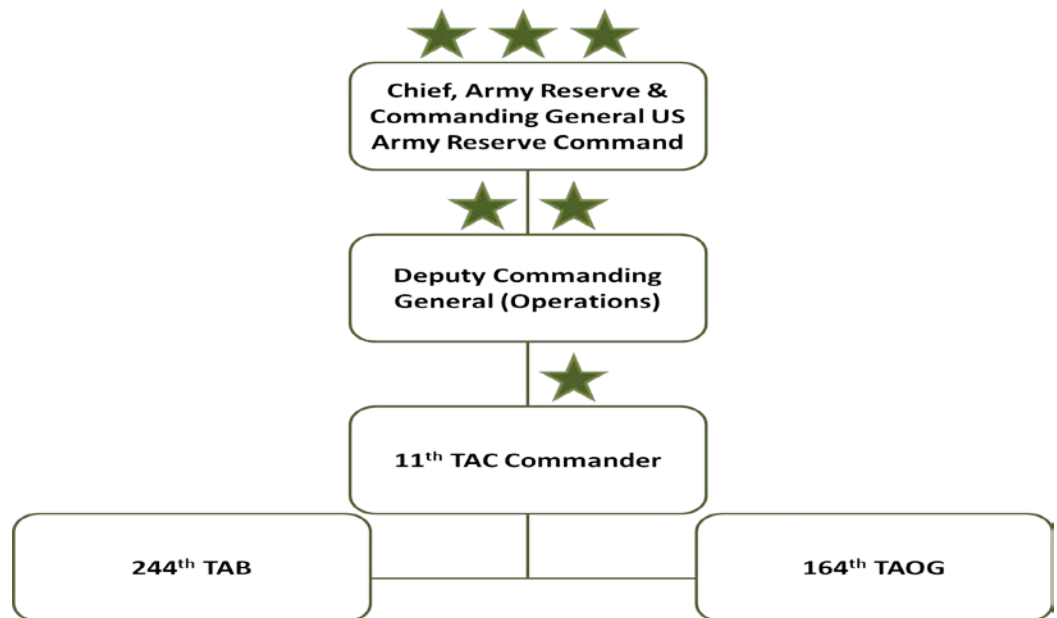
Historically, state governors reluctantly relinquish control of assets and often impede parent service access to units and equipment for operations other than state support.⁵⁸

Often, units must formally activate in federal service before the Army is able to use those assets in support of desired operations. Less flexible and available than the Army Reserve forces, the added barrier to access Guard aviation assets contributes to a cultural rift between the active Army component and National Guard.

⁵⁸ While assigned to the USAF Air Mobility Command, it was the author's experience that access to and policy guidance for ANG assets were more difficult than AFR assets due to state requirements and missions. Without federal mobilization or activation authority, access to NG units is largely dependent upon the state Adjutant General's willingness to commit personnel and equipment.

Army Reserve

The Army Reserve (USAR) organizationally realigned along functional and operational lines in fiscal years 2007-2009. With this reorganization, the 11th TAC commands all USAR aviation units and as the USAR aviation operational command, it reports to the USAR deputy commanding general for operations who reports directly to U. S. Army Reserve Commander. The commander, like his Air Force counterpart, is dual rolled as the Chief of the Army Reserve. Subordinate to the 11th TAC are the 244th TAB and 164th Theater Airfield Operations Group (TAOG).⁵⁹ Figure seven depicts the aviation portion of the Army Reserve chain of command .



Subordinate to the 244th TAB are the 7th Battalion, 158th Aviation Regiment, 5th Battalion, 159th Aviation Regiment, 2nd Battalion, 248th Aviation Regiment, and the 90th Support Battalion (Aviation). The 248th flies fixed wing aircraft, the 158th and 159th are

⁵⁹ TAOGs provide airfield and control tower operations and air traffic control.

designated general support aviation battalions flying HH-60s and Ch-47s, and the 90th is an aviation support battalion. While headquartered at Fort Dix, New Jersey, Fort Hood, Texas, Fort Eustis, Virginia, and Grand Prairie, Texas respectively, elements of these units stretch across the nation. The figure below shows where the geographically separated subordinate units serve.



Figure 7. Army Reserve Aviation Units⁶⁰

As the illustration shows, most aviation companies are located on active duty Army posts near large metropolitan areas. The companies vary in size from eight to 15 aircraft assigned.⁶¹

⁶⁰ Lieutenant Colonel William Wynn, US Army. US Army Aviation Combat Readiness/Safety Center. (email March 20, 2013)

⁶¹ 2012 *Aviation Force Structure Book*. (Fort Rucker, Alabama: U.S. Army Aviation Center of Excellence, March 28, 2012)

Coast Guard

Founded as an auxiliary on February 19, 1941, the United States Coast Guard Reserve (USCGR) model resembles the Naval Reserve as a military component. Coast Guard reservists serve in port security Units (PSUs), the Harbor Defense Command, and augmentation units that supplement active duty units when recalled.⁶² While the active duty Coast Guard flies both fixed-wing and rotary-wings aircraft, the Coast Guard Reserve does not. Therefore, this project does not evaluate the Coast Guard Reserve.

⁶² U.S. Coast Guard Reserve history; http://www.uscg.mil/history/articles/CG_Reserve_History.asp

Navy Navy Air Force Reserve

Naval Air Force Reserve History

The Navy has no National Guard or state militia force and is a federal force only. Similar to the other services, Naval Reserve aviation suffered from severe austerity measures leading up to World War II. Upon entry into the war, the Navy rapidly increased pilot production. Where only 1,800 aviation cadets completed training between 1935 and 1940, the Navy trained 7,000 in 1941 and the annual number of pilots trained annually reached 20,000 by 1943.⁶³ By the war's end, more than 55,000 Naval aviators plus aviation specialist and general service officers serving in aviation duties. In August 1945, reservists comprised 83 percent of the Navy's fleet manpower.⁶⁴ Following the war, policy makers wanted to retain the veteran experience and talent.

The renewed emphasis on Naval Reserve Air Forces ultimately led to the commissioning of 200 squadrons by 1948. When North Korea invaded the south, the Naval Air Reserve Forces were ready to meet the challenge. Squadron VF-781 at Los Alamitos, California was the first to volunteer en-masse and deploy as the conflict grew. The nation fought the war with a very large percentage of reserve forces. The concentration of reserve squadrons resulted in the USS Boxer sailing with a 90 percent reserve squadron contingent and in 1951, the first all reserve air group attacked along the 38th parallel.⁶⁵ In all, over 30,000 reservists and 84 squadrons deployed in support of the Korean conflict.

⁶³ Mersky, Peter; *U.S. Naval Air Reserve*; (Washington D.C.: U.S. Navy) p. 2

⁶⁴ Ibid

⁶⁵ Mersky, *U.S. Naval Air Reserve*, p. 20

Following the Korean conflict, the Naval Air Reserve began its upgrade to jet aircraft. However, as with the Air Force, the reserves flew obsolete legacy aircraft and readiness began to suffer. This was highlighted when President Johnson mobilized six Naval Air Reserve carrier squadrons in response to the North Korean attack on the USS Pueblo.⁶⁶ The squadrons went through transition training to qualify on the current fleet aircraft and were unable to deploy immediately. The situation diffused itself before the squadrons were mission-ready and demobilized without leaving the Continental United States (CONUS). In an effort to alleviate the current system's deficiencies, the Naval Air Reserve reorganized. A significant part of the plan created two Reserve Carrier Wings that mimicked the structure of the active Navy.⁶⁷ By the mid-1970s the wings' more modern F-4s and A-7s aircraft arrived at the units.

The military buildup of the 1980s had a very positive impact on the Naval Air Reserve. The age of the F-4s and A-7s, legacy systems from the regular Navy, began to show. Reliability issues, with the A-7 engines in particular, plagued unit readiness and mission ready rates. In the early 1980s, the Navy committed to equipping the Reserve with new modern aircraft and in October 1985, the Naval Air Reserve received its first F/A-18 Hornet. Along with the Hornet, the Naval Air Reserve also transitioned to the F-14 Tomcat thus retiring the F-4.⁶⁸

The Squadron Augmentation Units (SAUs) debuted in the same period. The Navy implemented the SAUs in an effort to ensure trained reservists were available to

⁶⁶ North Korea boarded the ship, reported to be in international waters, took the crew captive and interned the ship. The crew was released December 23, 1968 but the ship is still interned in North Korea.

⁶⁷ Mersky, *U.S. Naval Air Reserve*, p. 23

⁶⁸ Mersky, *U.S. Naval Air Reserve*; p.25

meet fleet wartime manning requirements. The Navy used the SAU construct with the F-14 squadrons to remedy an aircraft shortfall; there were not enough F-14s for fully equipped separate units.⁶⁹ The Maritime Patrol Squadrons implemented a similar program: Reserve Master Augment Units (MAUs). Flying the P-3C Orions, crews and units reported directly to the active duty unit when mobilized. The positions in augmented units tie to an operational plan or mission, require pre-mobilization training, and are militarily essential.⁷⁰ In 2003, the Navy augmented their 16 training squadrons with SAUs. The fully integrated squadrons provide continuity and experienced instructors and fill critical manning shortfalls.⁷¹

⁶⁹ Ibid, p. 26

⁷⁰ Edmunds, Robert, Commander; Transforming the Naval Reserve: How to Stay Relevant and Affordable in the Post-Cold War Environment; July 4, 2003; p. 5

⁷¹ Laedlin, Scott, LCDR; Varias, Mike, LCDR; Naval ReserveForce Fully Integrated in the Naval Air Training Command-Producing the World's Best Aviators; March 2004

Naval Reserve Organization

The two figures below illustrate the Naval Reserve Air Force chain of command and the location and types of aircraft.

Commander, Naval Air Force Reserve *Organizational Chain of Command*

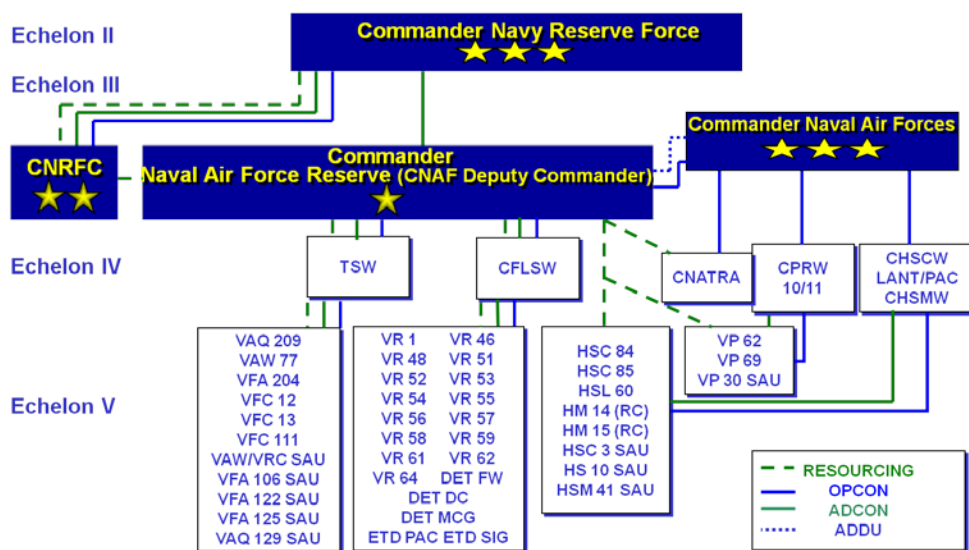


Figure 8. Naval Air Force Reserve Chain of Command⁷²⁷³

Figure 8 illustrates the Navy's Total Force Integration throughout the force structure: the Commander, Naval Air Forces Reserve serves a dual role as the Deputy Commander for the West Coast Naval Air Forces. This dual role is unique to the Navy. Notably, no other Service uses a general or flag officer in a dual role where they command RC units while simultaneously in the chain of command for active duty units.

⁷² Naval Reserve Command via Personal Communication;

⁷³ HC-Helicopter Combat Support Squadron; HCS-Helicopter Combat Support Special Squadron; HM-Helicopter Mine Countermeasures Squadron; HSL-Helicopter Anti-Submarine Squadron (Light); VA-Attack Squadron; VAQ-Carrier Tactical Electronics Warfare Squadron or Tactical Electronics; Warfare Squadron; VAW-Carrier Airborne Early Warning Squadron; VC-Fleet Composite Squadron; VF-Fighter Squadron; VFA-Strike Fighter Squadron; VP-Patrol Squadron; VPU-Patrol Squadron Special Unit; VQ-Fleet Air Reconnaissance Squadron; VR-Fleet Logistics Support Squadron; VRC-Fleet Logistics Support Squadron

The Naval Reserve Air Force has three types of units:

1. The Squadron Augment Unit described earlier. Currently these squadrons are predominantly associated with training squadrons.
2. Fleet Response Units (FRU) align with their Active Duty counterparts and report to the active parent unit for operational control. The FRUs primarily train individual augmentees to supplement Active squadrons during Fleet Response Plan (FRP) surge operations.
3. The Reserve Mobilization Squadrons (RESFORON) are unit equipped and deploy as a unit with their equipment in support of FRP surges.⁷⁴

Similar to USAR aviation units, most Naval Reserve units are near major metropolitan areas and spread across the nation as illustrated below.

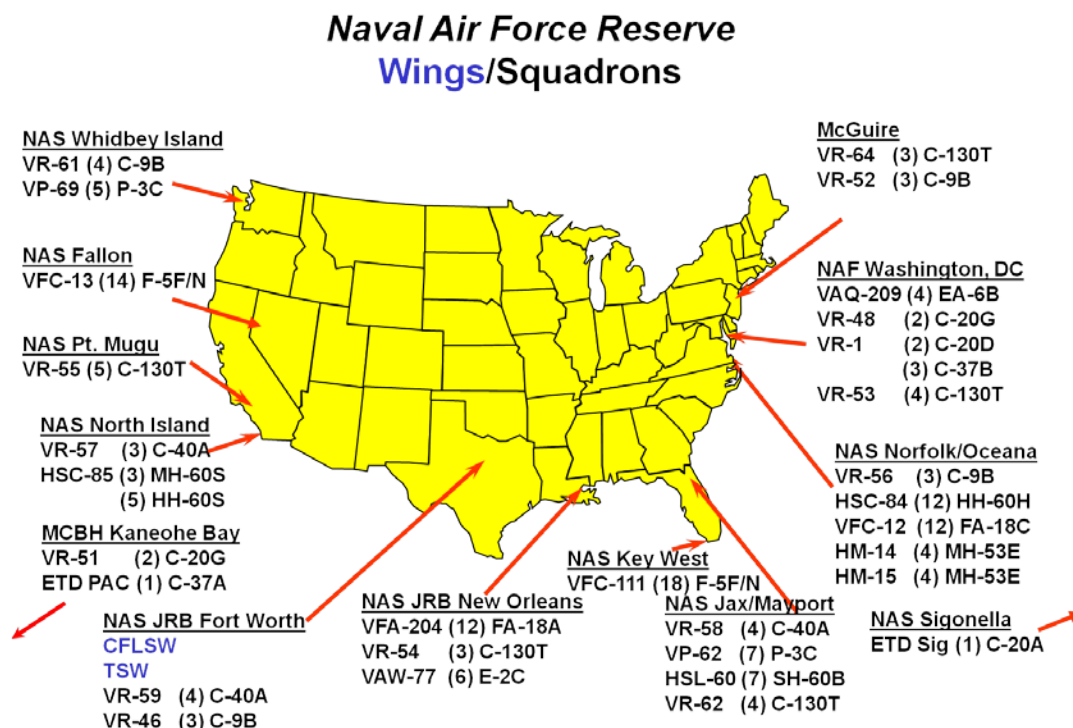


Figure 9. Naval Air Force Reserve Unit Locations⁷⁵

⁷⁴ Rye, Scott LCDR; Naval Air Force Reserve; Naval Reserve Affairs News; April 2004

Well positioned overall, Naval Air Force Reserve unit locations enable effective recruiting and retention. It is the author's opinion this will contribute to the Navy Reserve's continued resilience and ability to meet operational commitments.⁷⁶ The ability to capture experienced aviators, crews, and maintainers leaving the service and a large populous from which to recruit new accessions is a significant advantage.

⁷⁵ Naval Reserve Command via Personal Communication

⁷⁶ The author commanded a squadron in an area where quality, professional, well paying jobs were scarce. This led to recruiting and retention challenges.

Marine Corps

“Marine forces rely heavily on the fires, fire support, and mobility provided by Marine aviation. Marine aviation is an integral part of the Marine air-ground task force (MAGTF).”

- Marine Corps Warfighting Publication (MCWP) 3-2, *Aviation Operation*⁷⁷

Though a Department of the Navy component, the Marine Corps is a separate service (formed in 1775) with a distinct doctrinal role and mission. Marine forces generally arrive “amphibiously” or from the sea and travel light. Marine aviation, integral to the Marine air-ground task force (MAGTF) provides aerial fires and mobility. The Marine Aviation Combat Element (ACE) provides essential firepower over the shore for the combined arms team. Exclusively dedicated to ground element support, the Marine combined arms construct differs from the Air Force and Navy with an exclusive Close Air Support (CAS) role focus.⁷⁸ Steeped in history, Marine Corps integrated air-ground operations developed and matured over the last 99 years.

Marine Aviation History

Marine aviation history is closely tied to that of Naval aviation. However, the Marines first demonstrated combined air-ground operations in 1914 that would eventually define how the Marine Corps conducted warfare. During World War I, the Marines flew bombing missions and aerially resupplied ground Marines. Nicaraguan operations during the late 1920s and early 1930s demonstrated the first air-ground integration and coordination techniques when Marine aviation attacked massed Sandinista forces inflicting heavy casualties and employed Close Air Support (CAS),

⁷⁷ Marine Corps Warfighting Publication (MCWP) 3-2, *Aviation Operations*

⁷⁸ Ibid; p. 1-1

Deep Air Support (DAS), aerial logistics, and aerial evacuations.⁷⁹ In the years leading up to World War II and during the war, the Corps developed combined operation tactics in support of amphibious operations.

The Korean conflict saw the integrated fixed and rotary wing operations further integrated into the combined arms operations. While the helicopter's primary use entailed medical aerial evacuation missions, other tactics such as armed escort missions evolved. As helicopter technology progressed so did roles and missions. In Vietnam, M-60s mounted in the doors provided some defensive firepower. Armed UH-1B Huey gunships, fielded in 1963, provided offensive firepower and the AH1-G Cobra, with increased lethality and armor entered the war in 1967.⁸⁰

Throughout the 1960s, 1970s, and 1980s, aviation technology grew rapidly and the Marine Corps aviation capabilities grew. The Marines developed a war fighting concept and doctrine that emphasized speed, tempo, and seamless air-ground integration operations conducted by a smaller expeditionary force. This form of maneuver warfare performed exceedingly well in Operation Desert Storm. The Marine Air-Ground Task Force (MAGTF) grew from this concept.⁸¹

Marine Reserve

As the Marine aviation element grew and matured, so did the Marine Aviation Reserve Forces. The Marine Reserves often played key roles in conflicts and the development of concepts and doctrine.⁸² In 1962, the Marine Corps Reserve reorganized

⁷⁹ Marine Corps Warfighting Publication (MCWP) 3-2, *Aviation Operations*; p. 1-2

⁸⁰ Ibid; p. 1-4

⁸¹ Ibid

⁸² Marine Corps Warfighting Publication (MCWP) 3-2, *Aviation Operations*; p. 1-2

and activated the 4th Marine Division, a completely reserve division. Although 1962 is the official activation date, the Marine Corps took until 1966 to staff a headquarters element. The division's task entailed organizing the Marine Reserve into a division that mirrored its regular counterpart as did the 4th Marine Aircraft Wing (MAW).⁸³ Today the 4th MAW counts more than 7000 troops and 115 aircraft and helicopters spread across the nation.⁸⁴ The two figures below illustrate the 4th MAW organizational chart and its subordinate units locations.⁸⁵

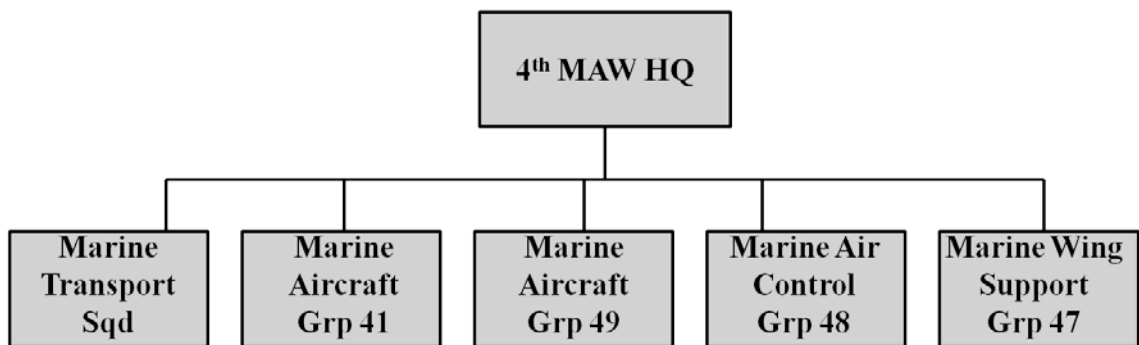


Figure 10. 4th Marine Aircraft Wing

Commanded by a two star general, the 4th MAW is headquartered at New Orleans Naval Air Station and commands units spread over more than 20 locations.

⁸³ Chapin, John First Lieutenant; The 4th Marine Division in World War II;

⁸⁴ Purpura, Paul; 4th Marine Aircraft Wing sees Change of Leadership in Algiers; *The Times-Picayune*; August 6, 2012

⁸⁵ U.S. Marine Corps; Concepts and Programs 2011; p. 35

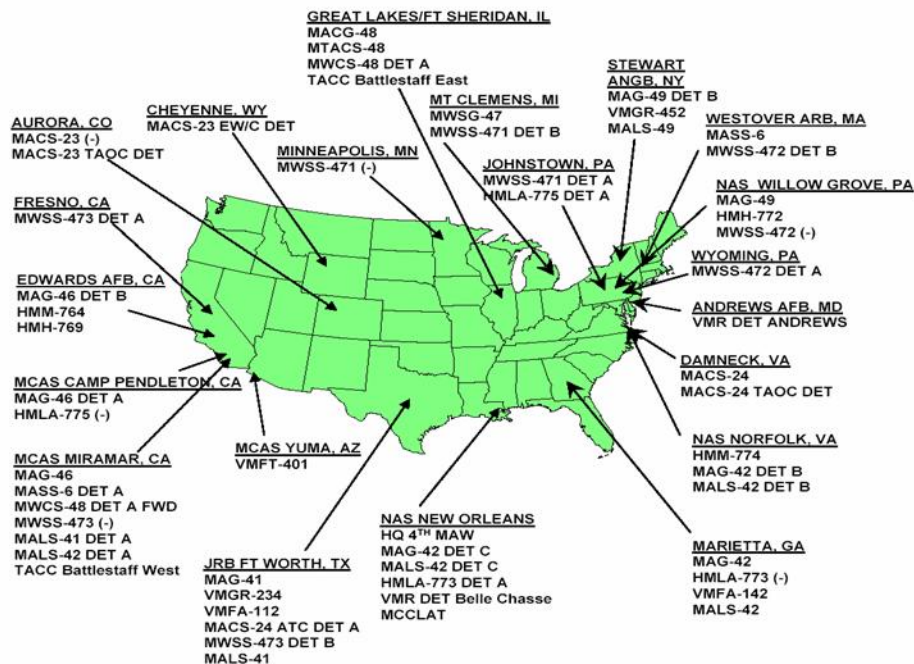


Figure 11. Marine Corps Air Reserve Units and Locations⁸⁶

The graphic represents the force structure and disposition of the larger aviation units as of 2007. Similar to the Army and Navy Reserve aviation units, many units are near large metropolitan areas and collocated near active installations.

⁸⁶Wikipedia; http://en.wikipedia.org/wiki/File:4th_MAW_laydown_of_forces.jpg

THE AIR FORCE ASSOCIATE UNIT MODEL

“In 1990, the Reserve Component represented 25 percent of the Total Force end strength; today that percentage is at 35 percent. Reserve Component aircraft ownership also increased from approximately 23 percent to 28 percent over the same period.” -*Air Force FY 2013 Posture Statement presented to House Armed Service Committee*¹

The U.S. Air Force (USAF) maintains a substantial capability in its Reserve Component (RC). The highest levels of Air Force leadership discuss how to best leverage RC assets and experience. The RC statistically has older and more experienced service members, owns a significant number of assets, and while considered a strategic reserve, the RC is operationally leveraged to meet the nation’s national security needs. In an effort to balance the fiscal realities of today and meet mission readiness requirements, the USAF continually evaluates its Total Force Integration (TFI) model.

The Air Force vision for TFI is “focused on an expeditionary mindset and the desire to maintain the highest levels of force readiness while sustaining the maximum capability to the warfighter”² with the stated objective of “...maintain the capability to meet combatant commander (CCDR) requirements for both surge and sustained operations.”³ The Air Force Reserve Component (ARC) performs the same mission as the Regular Air Force (REGAF), often sharing the same offices and equipment. The Associate TFI model offers many advantages, to include maintaining capability and

¹ Norton Schwartz, General, Michael Donley, Secretary of the Air Force. *Air Force FY 2013 Posture Statement*, (Washington D.C.: U.S. Air Force), pg. 8

² AFI 90-1001, *Responsibility for Total Force Integration*, (Washington D.C.: U.S. Air Force) pg. 5

³ Ibid, pg. 4

capacity within budget constraints, increased aircraft utilization, and leverage skilled manpower and mitigate shortfalls.⁴

Though the AFR associates in almost every Air Force mission set, this paper specifically examines the flying associate unit model. In that regard, current law permits three different types of association:

- Classic Associate is an integration model where the REGAF unit is the host unit to one or more reserve component associate units.
- Active Associate is an integration model where the ARC unit is the host unit to one or more REGAF associate units.
 - Community Basing is a variation of the Active Associate model host at an ARC installation without the traditional military installation facilities and support. Those traditional support functions (e.g. housing, medical, commissary, etc.) are secured through the local community and economy.
- ARC Associate is an integration where the ARC Component integrates two or more ARC units (e.g. an Air Force Reserve unit hosts an Air National Guard associate unit).⁵

A Host Unit (defined by the initiative not by installation) is equipped or “owns” the weapon system or systems, weapon system support, equipment, and or production facilities.⁶ The Associate Unit has primary responsibility for unit members but shares the weapon system assigned to the host. The associate can provide other physical resources

⁴ AF/A8X; Total Force Enterprise Commander’s Professional Development Brief; August 2012

⁵ AFI 90-1001, *Responsibility for Total Force Integration*. pg 7.

⁶ In accordance with Air Force Policy Directive 10-9, *Lead Command Designation and Responsibilities for Weapons Systems*, March 8, 2007.

in support of the host mission if so defined by the organizational construct and Command Integration Arrangement.⁷

Command Integration Agreements

Command Agreements are the Associate Unit foundation. They include Integration Plan documents, Memorandums of Agreement (MOAs), Memorandums of Understanding (MOUs), Support Agreements (SAs), Program Plans (PPlans), Program Action Directives (PADs), Organizational Change Requests (OCRs), and others needed to define the relationship and responsibilities between the Host and Associate unit. Units are encouraged to share facilities and work spaces to the maximum extent possible.

The host unit commander is responsible for operations, support, direction, control and supervision for all operational matters over personnel assigned, attached, or detailed regardless of component, as described in the applicable MOUs and MOAs. However, each unit maintains its own chain of command as ARC units are legally required to maintain their own chains of command unless federally activated. This arrangement can present a convoluted supervisory situation at times when members of different components are working jointly without the full unit present. The Air Force uses the term, derived from the associate construct, Operational Direction (OPDIR) to describe the agreed upon authority as a remedy. Operational Direction is “the authority to designate objectives, assign tasks, and provide the direction necessary to accomplish the mission or operation and ensure unity of effort.” This allows functional supervision within the integrated units. OPDIR is void of any statutorily enforceable discipline or command authority, is not Operational Control (OPCON) or Tactical Control (TACON),

⁷ AFD 10-90

and is not a *formally* recognized term outside of Air Force Associate units. Commanders discuss amongst themselves any friction or incidents that arise and remedy within their respective chains of command.⁸ Effective lines of communication are the key. Figures 1 and 2 illustrate this relationship.

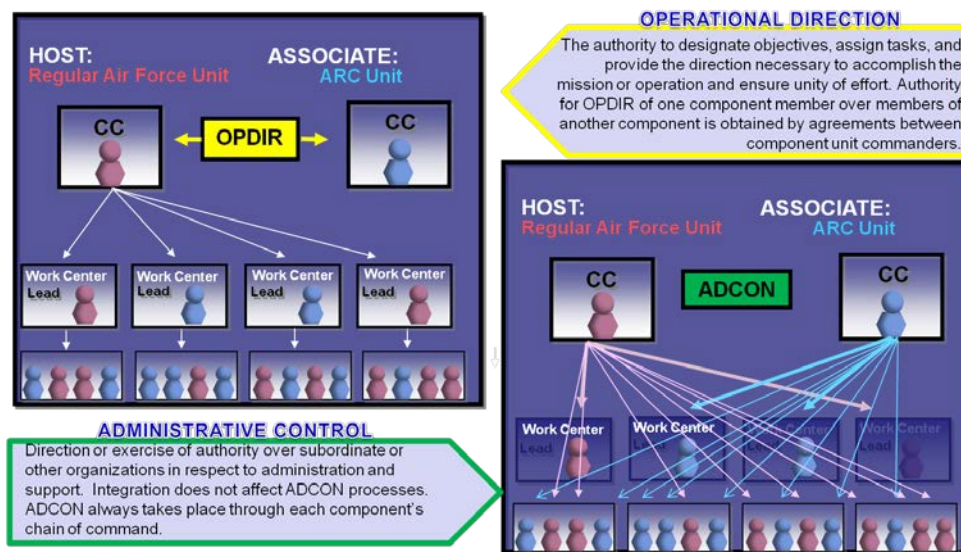


Figure 12. Classic Associate Unit OPDIR and ADCON⁹

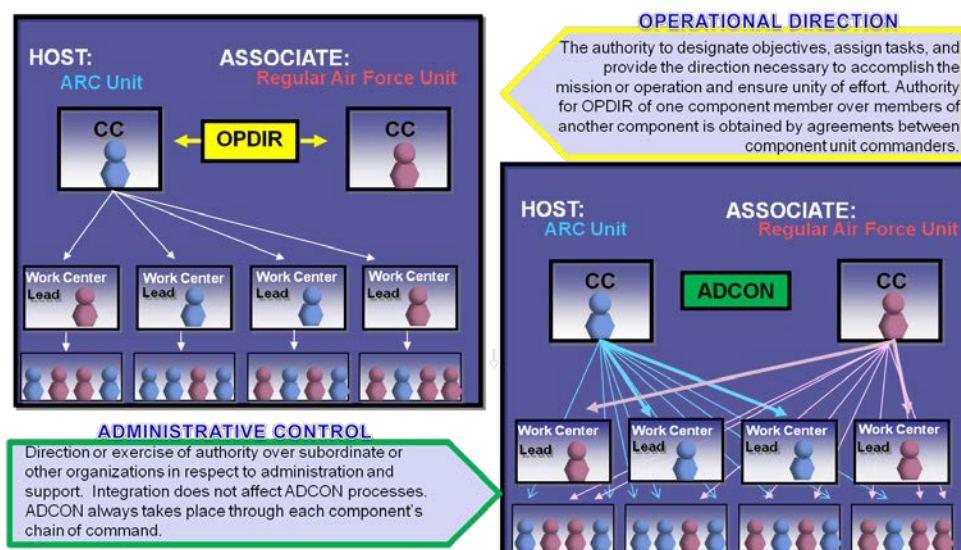


Figure 13. Active Associate Unit OPDIR and ADCON¹⁰

⁸ AFI 90-1001, pg. 8

⁹ Fagan, Vince, Col. Total Force Integration Briefing. Washington D.C.: U.S. Air Force A8F, 2009

Communications between associated units and MAJCOMs is essential to integration success. Host and associate units use “direct liaison authorization” or DIRLAUTH to facilitate daily functions and communicate directly with supporting MAJCOMs, centers and agencies. Direct communication between the host and associate unit is not only authorized but encouraged¹¹.

Combatant Commander (CCDR) Command Arrangements

When assigned to a Combatant Command, per Joint Publication 1-02, OPCON over tactical forces resides with the CCDR or authorized subordinate commander with which such authority is delegated. The Service component commander (e.g. Commander of Air Force Forces, COMAFFOR) typically exercises Administrative Control or ADCON over those forces assigned or attached.

If not fully mobilized (e.g. partial mobilization or federal activation), ANG members are assigned to the ANG Readiness Center which is where ADCON will reside. Concurrent lines of disciplinary authority will flow from both the CCDR and ANG Readiness Center.¹² Guard members maintain their respective chains of command through the Adjutant General unless they are in Title 10 or federal status. AFR members remain assigned to their respective units and their commanders remain responsible for administration, support and discipline.

¹⁰ Fagan, Total Force Integration Brief

¹¹ AFI 90-1001, pg. 8

¹² AFI 90-1001, pg. 9

Example Units

As mentioned, the Air Force first associated its strategic airlift units in 1968. These units associated over 40 years ago and provided the context with which the TFI model grew. Originally, the C-9 and C-141 aircraft owned by REGAF, were flown by and with AFR crews and REGAF crews. Crews were often mixed crews and common practice involved instruction and evaluations administered by both components. Strategic airlift units remained the sole associates for decades. As U.S. Transportation Command (USTRANSCOM) controls the aircraft and crews, they do not transfer operational control (OPCON) to a theater commander during hostilities, the model worked exceptionally well.

The typical contingency concept of operations (CONOPS) entails aircraft and crews flying from their home stations and to an intermediate staging base. Upon arrival at the enroute stage base, crews enter crew rest and another prepositioned crew flies the next leg of the mission. Aircraft need fuel, not rest, and the stage laydown offers an efficient way to expedite the flow of men and equipment. The actual component composition of the crews is irrelevant. The Air Force maximizes aircraft utilization while leveraging the strategic depth of a fully qualified and ready Reserve force. This arrangement epitomized the force multiplier concept.

Despite the overwhelming success of the strategic airlift associate units, the Air Force did not seek to apply the associate model across other mission sets and weapon systems until the last decade, starting in earnest in 2000. The precipitous and focus of efforts in regards to TFIs are best described in the U.S. Air Force Transformation Flight Plan of 2004,

“Since the Guard, Reserve, and Active Duty seamlessly form integrated operational wings in combat, the Air Force is exploring this type of integration at home FTF¹³ organizational constructs. Such integration allows the Air Force to include the Air Reserve component in new weapon systems and emerging mission areas such as ISR and space to ensure they remain relevant as their legacy weapon systems are retired. Furthermore, utilizing Guard members and Reservist in future weapon systems allows the Air Force to substantially increase crew ratios, which will maximize output of these high performance aircraft. Integration will also relieve stress on the Active Duty force and provide a cost-effective force multiplier. Finally, it will leverage the high experience levels of Air Reserve Component personnel and enhance retention of Airmen who have decided to leave active service, saving countless dollars in training.”¹⁴

This author highlighted key points in bold print. These are advantages sought through expanding the Associate model across the Air Force and are potential opportunities for cross-service exploitation. In the spirit of full disclosure, not all TFI efforts met with initial success or went smoothly.

Hill AFB Fighter Classic Associate

The first Air Combat Command (ACC) fighter unit associate encountered many obstacles, growing pains, and difficulties. While the Air Mobility Command (AMC) had many years’ experience and a culture of association, the concept was new to ACC fighter units and faced several challenges with the ACC effort. The wings received little guidance on how to integrate the organizations and many higher headquarter (HHQ) taskings, requirements, and expectations did not change to meet the new reality on the ground.¹⁵

The first fighter wing associate, at Hill Air Force Base, was one of six original test TFI initiatives. The REGAF’s 388th Fighter Wing (FW) flew F-16s as did the AFR’s

¹³ Future Total Force (FTF)

¹⁴ U.S. Air Force Transformation Flight Plan-2004. Washington D.C.: HQ USAF/XPXC p. 34

¹⁵ ACC/AFRC Hill TFI Collection, A9 Summary After Action Report, 11-14 Dec 2007

419th Fighter Wing. This represented the integration of two well-established wings, each with unique cultures and heritage operating on the same base. As the first integration, respective wing leaders identified many significant shortcomings and lessons learned. The main areas discussed in after action interviews included organizational culture and manpower, direction and policy, operations tempo, designated operational capability (DOC), facilities and funding, deployment expectations, requirements, and duration.¹⁶

Organizational Culture and Manpower Challenges

Lack of HHQ guidance exacerbated organizational challenges. After action interviews highlighted the need for a detailed organizational model and structure for units as they integrate. Difficulties experienced by units during initial phases highlighted this shortcoming. Units with established working relationships before association, propulsion for example, integrated well where units lacking that established working relationship found it more difficult. Initially, loss of unit identity created challenges as well. The REGAF, already short positions resulting from Program Budget Decision (PBD) 720 cuts¹⁷ and pre-planned TFI offsets, used Reserve manpower to fill gaps created by these gaps. This, along with Reserve maintenance personnel divided among the three REGAF aircraft maintenance units (AMUs) and the reassignment of Reserve aircraft created a loss of unit identity and increased association and functional integration challenges. The 419th FW (Reserve wing) felt this was not an effective construct and critiqued it

¹⁶ Hill TFI After-Action Report, 2008

¹⁷ PBD 720 reduced REGAF endstrength by approximately 40,000 personnel in an effort to meet modernization and recapitalization requirements.

heavily.¹⁸ Other identified organizational challenges included cross-acculturation between active and reserve component career progression requirements and promotion opportunities, civilian versus military restrictions, scheduling differences, and the need to co-locate certain REGAF and Reserve sections to facilitate a more cohesive association.¹⁹ It is important to note both wing leaders, REGAF and Reserve, believed the culture differences would work themselves out over time and communication, early and often, was essential to success.

Direction and Policy Shortfalls

The lack of HHQs TFI direction and policy directly contributed to difficulties and challenges faced. The need for clear communication above the wing level proved to be as important as between the wings. Arguably, ACC's coordination with AFRC lacked sufficient depth and breadth to facilitate smooth a transition and led to difficulties balancing assets against requirements for both units. The REGAF and AFR wings had different policies regarding down days, training days, and safety days that created additional scheduling confusion.

The flying hour program management created challenges as well. The AFR wing (419th) was allocated proportionally more hours than the REGAF units. Friction resulted by the 388th and 419th attempting to manage these programs and ensure completion of required training events. This shortcoming manifest itself in several different forms including deployment preparation and Operational Readiness Inspection (ORI) training

¹⁸ A9 Summary After Action Report. (Washington D.C.: U.S. Air Force ACC A9L, AFRC A9L, 2008)

¹⁹ *ibid*

and preparedness.²⁰ Additionally, process standardization across both wings, standardized inspection criteria, joint REGAF/AFR inspection teams, and broader latitude for the AFR wing commander's use of Military Personnel Appropriation (MPA) authorizations and use created issues early in the integration process.²¹

Operations Tempo and Designated Operational Capability

The integration occurred amidst a very volatile period while the operations tempo (OPSTEMPO) was extremely high. Combat operations in both Iraq and Afghanistan, in addition to other commitments, combined with personnel cuts previously discussed stressed both components. Further aggravating the situation, pilot manning levels were not commensurate with maintenance personnel reductions thus creating even more strain on maintainers. Reservists volunteered at unsustainable rates (some at 80 percent) in efforts to mitigate shortfalls but mismatches in deployment training cycles and a cumbersome command processes filling short notice taskings complicated the situation. Recommendations in response to the challenges included deliberate long-term planning models with reasonable volunteerism rates and the recommendation units undergoing Total Force Integration be put into conversion status²² until the transformation is complete.²³

Failure to address organizational changes in operational plans and capabilities statements directly contributed to OPSTEMPO stress. Prior to the Association, each wing had Designated Operational Capability (DOC) statements, Status of Resources and

²⁰ A9L Hill TFI After-Action Report, 2008

²¹ MPA is a type of Reserve Component active pay status commonly referred to as a "manday."

²² Conversion status is considered non-mission ready and not subject to normal deployment rules.

²³ A9L Hill TFI After-Action Report, 2008

Training Systems (SORTS), Air and Space Expeditionary Force Unit Type Code Reporting Tool (ART) requirements. These numbers, based on each wing's capability and mission readiness given available and assigned equipment and personnel, fed Combatant Command Operational and Theater Campaign Plans (OPLANS and TCPs respectively) in addition to the Deployment Requirement Manning Document (DRMD). Failure to update SORTS, ART, DRMD requirements committed both wings beyond their available personnel and resources.²⁴ This oversight further stressed personnel and equipment and contributed to an already excessive OPSTEMPO. Morale in both units suffered under the strain.²⁵

Hill AFB TFI Summary

The 388th Fighter Wing and 419th Fighter Wing association was the first ACC and AFRC association and one of a six TFI test initiatives. The first combined ACC/AFRC after-action report following the association documented the initial shortcomings. Air Force directives, instructions, and guides now codify many recommendations and lessons learned as the concept matures. Ultimately, the association succeeded and the units overcame those significant challenges. The efforts of many working through those initial associations form the foundation used today throughout the Air Force. This author chose the 388th and 419th associate example as it exemplifies those issues and challenges other services will likely encounter when they chose to leverage their RC aviation units in a manner similar to the Air Force construct.

²⁴ A9L Hill TFI After-Action Report, 2008

²⁵ *ibid*

Active Associate Units

The Active Associate Units (AAU) model represents a relatively new associate evolution. In July 2006, Air Mobility Command stood up the first AAU between the REGAF and Wyoming ANG in Cheyenne, Wyoming. Heralded by the 153rd Airlift Wing commander as a new idea and as a “way to make sure the nation gets the most out of its airplanes, air crews, and tax dollars.”²⁶ This echoes Headquarters Air Force Total Force Management (AF/A8XF) Directorate’s reason’s for using the Associate model. They state Associates and the Total Force Enterprise are to:

- Maintain Air Force Capability despite budget constraints
- Increase utilization of aircraft and other equipment
- Leverage skilled manpower/mitigate shortfalls²⁷

Recent research regarding AAUs in the Air Mobility Command,²⁸ using the Delphi Method²⁹ to poll and distill AAU Subject Matter Experts (SME), found many benefits and drawbacks had high levels of consensus. The benefits included AMC increased capability by leveraging ARC aircraft, both on and off station reliability rates increased, offered greater surge capability, and the ARC had better operations-maintenance relationships than the AD. Additionally, after initial integration costs, Operations and Maintenance (O&M) costs were less than that of equivalent units added to an AD base,

²⁶ Lockwood, Tim 1Lt; Active-Duty Unit Mark First Year Under Guard Wing; <http://www.af.mil/news/story.asp?storyID=123060095>

²⁷ AF/A8XF; Total Force Enterprise Management; December 7, 2012

²⁸ Sjostedt, Travis; Active Associate Units: Benefits and Drawbacks; June 10, 2010.

²⁹ The Delphi method was originally developed in the 50s by the RAND Corporation in Santa Monica, California. This approach consists of a survey conducted in two or more rounds and provides the participants in the second round with the results of the first so that they can alter the original assessments if they want to - or stick to their previous opinion. No one ‘loses face’ because the survey is done anonymously using a questionnaire (the first Delphis were panels). (http://www.unido.org/fileadmin/import/16959_DelphiMethod.pdf)

and AD administrative manpower requirements decreased on ARC installations due to the host unit's support. Not only more cost efficient with higher reliability, the SMEs thought Active associate units better developed young maintainers and aviators by nature of the lifelong experience resident in the RC. They believed the bonds created while serving together will reap dividends in the future by enhancing Total Force dynamics.³⁰

As with many organizations, the SME's expressed concerns that units unable to resolve cultural differences will not realize their full potential and potential negative career impacts due to limited supervisory and leadership positions. The geographical separation from their AD host wing and the potential for host unit leaders' not understanding the associate unit construct was of concern. However, respondents thought proactive squadron leadership could overcome this. Regarding the cultural integrations, one respondent stated, "Relationships are everything! Bad relationships will prevent everything."³¹ As with the classic associate unit, lead and follow-on unit Unit Type Codes (UTC)³² must appropriately reflect the new construct in order to alleviate tasking difficulties. Concern over aircraft availability during a RC mobilization or activation and some loss of AMC's tasking flexibility, due to coordination requirements with the host unit, were expressed as well. Not all saw the last item as a drawback however. Some noted the additional level of coordination helped shield their unit from knee jerk reactions and poorly planned or unneeded mission taskings and thus reduced stress on their AD members.³³

³⁰ Sjostedt, Travis; Active Associate Units: Benefits and Drawbacks; June 10, 2010

³¹ *ibid*

³² A Joint Chiefs of Staff developed and assigned code, consisting of five characters that uniquely identify a "type unit." (JP 1-02)

³³ Sjostedt, Active Associate Units: Benefits and Drawbacks; June 10, 2010

It is important to note the study surveyed AD SME's only. The views and perceptions represent that of those who served in or directly dealt with those units. Although this research evaluates one stakeholder, it clearly shows those with experience in AAUs saw more benefit than cost and AF/A8XF's efforts are worthy of cross service evaluation.

CROSS SERVICE ANALYSIS

Army Aviation

Opportunities for Classic Associates

Both the Army Reserve (USAR) and (ARNG) Army National Guard offer opportunities for successful unit association following the lead of the Air Force Reserve (AFR) and Air National Guard (ANG). The Army Reserve, in particular with a majority of its aviation units based on active army installations and near large population centers, is well suited for associated units. Those units, Fort Hood (relatively close to Austin and San Antonio, Texas), Fort Lewis (in the Seattle and Tacoma area, Washington), and Fort Carson (near Colorado Springs and Denver, Colorado), are geographically favorable to a Classic Associate unit construct. Fort Bragg, North Carolina is a very large active duty Army base and has potential, but its location could serve as a challenge for long-term retention. The Air Force Reserve squadrons at Pope Field next to Fort Bragg face similar challenges. Fort Rucker, Alabama offers a unique opportunity as the home of the Army's Aviation Center of Excellence and pilot training.

Though not near a major metropolitan area, Fort Rucker's institutional training mission lends itself to predictable and enduring taskings that are conducive to RC participation. The higher experience level and more seasoned available aviators in the RC offer the Army an opportunity to leverage this asset. A second order of effect is the fewer active duty aviators detailed to training units directly equates to more operational and experienced aviators in combat units. Lieutenant General Sherrard, then Air Force Reserve Command Commander said,

“To counter the active-duty pilot shortage, Air Education and Training Command (AETC) recently tripled the number of undergraduate pilots in the pipeline. AETC asked us (AFRC) to assist by providing experienced, capable instructor pilots with prior fighter experience. The Reserve SUPT instructor program does two things for the Air Force. It provides well-qualified, highly experienced instructor pilots to meet the manpower demands of a growing pilot training program and it captures and capitalizes on the nation's investment in some of the pilots who elect to leave active duty. AFRC established our first Reserve instructor pilot unit three years ago and the program has enjoyed explosive growth to six training squadrons providing 20 percent of the Air Force's instructor force in T- 37s, T-38s, AT-38s, and T-1s.”¹

The AFR went on to expand the training unit associations and associates in Major Weapon System (MWS) training programs such as the C-130 training at Little Rock Air Force Base, Arkansas and Keesler Air Force Base, Mississippi.² Likewise, the Navy's use of SAU units in their training command proved very successful. The ability to surge training with extra Reserve participation when needed and curtail duty days when not needed proved a win-win opportunity and highlights TFI potential.³

Opportunities for Active Associate

The Army Reserve units located on active duty Army host bases offer new opportunities for Active Associate units. Specifically, those with an active duty flying mission already collocated lend themselves to classic or active associate. Fort Lewis, Washington, Fort Carson, Colorado, Fort Knox, Kentucky, and Fort Benning, North Carolina all host both active duty and reserve units.

¹ Sherrard, James; Reserve: Essential Part of Military Strategy and Capability; *The Officer*; January/February 2006; p. 56

² Knable, Joe; New Reserve unit stands up at Little Rock as Air Force retires active-duty C-130E fleet; <http://www.amc.af.mil/news/story.asp?id=123240016>; retrieved February 1, 2013

³ Laedlin, Scott, LCDR; Varias, Mike, LCDR; Naval Reserve Force Fully Integrated in the Naval Air Training Command-Producing the World's Best Aviators; March 2004

At this time, Army Reserve and National Guard units not collocated on active army installations do not lend themselves to city basing options for active associations due to their relatively small number of assigned aircraft and smaller unit size. If units consolidate and relocate as basing actions occur, then economies of scale may make city basing worthy of reconsideration.

Challenges to Implementation

Inertia is always an obstacle for organizational change, especially for large, bureaucratic organizations such as today's military. As the Air Force expanded the association construct, concerns expressed included pride of ownership, unit identity, and the loss of access to aircraft and flying hours. The fighter wing associate at Hill AFB, Utah is the best example as the assets, like Army aviation assets, are tactical, realign command and control to a theater commander when deployed, and as the first fighter unit it experienced many growing pains. Significant lessons learned are prime indicators of many challenges that face a new associate unit in the Army Total Force. As with the Hill Air Force Base example, leadership, communication, and well-defined command relationship guidance can mitigate and overcome much of the initial friction that will occur.

Placing strong commanders with established communication skills can mitigate some friction, especially during the initial association. With the expected culture clash, new structure, and significant change in daily routines as units integrate, commanders who work toward a common goal succeed where obstructionists might fail. The Hill AFB fighter association illustrated difficulties commanders can face. Two commanders with strong communication and interpersonal skills, able to create the personal

relationships as described in the Active Associate study (AAU) will lead their units through the initial integration more effectively. Senior service leaders should consider the personalities when choosing commanders to lead units through integration.

Another obstacle is deep seeded distrust between the Army National Guard and Active Duty Army. The cultural rift dates back over 100 years from multiple attempts to federalize the National Guard in the a manner that emulated the Prussian influenced Continental European military service model at the turn of the 20th century.⁴ Multiple friction points over roles, missions, equipment, and readiness continued throughout the last century. The Abrams' Doctrine, often considered synonymous with the 1970s Total Force policy origins, began to change this relationship somewhat.⁵

The most significant improvement to this fractured relationship occurred over the last decade. The Total Force contributions to the Global War on terror (GWOT), Operations ENDURING FREEDOM (Afghanistan) and IRAQI FREEDOM (Iraq) are noteworthy and discussions regarding operationalizing the Reserve Component are common.⁶ While the pros and cons of an Operational Reserve are beyond the scope of this paper, such discussions and debates represent closer ties the Army's three components now enjoy. Culturally speaking, the opportunity to successfully associate select Army aviation units is now.

Naval Aviation

The Naval Reserve Air Forces already integrate with Active Naval Air Forces. The Squadron Augmentation Unit (SAU) model and construct differs from the Air Force

⁴ Wilson, B.; The Guard and Reserve in the Total Force, The First Decade 1973-1983; 1985 p. 21

⁵ Winkler, J., Bickler, B.; The New Guard and Reserve; p. 4

⁶ Ibid, p.vii-x

Associate model but succeeds. The five Naval flying training wings and 16 squadrons operate with 268 Select Reservists and 86 Full Time Support personnel instructing alongside their Regular Navy counterparts are but one example.⁷ The expansion of SAUs, re-introduced in the mid-1990s, highlights the program's success and continued implementation into the future.

Marine Aviation

Opportunities for Classic Associate Units

The Marine Air Reserve Forces offer opportunities for classic associations given many Marine aviation units are collocated on active installations near metropolitan areas, recruiting opportunities for those separating from the service and new accessions from the nearby population centers are many. As with the Army analysis, the fleet training units or institutional training forces offer an excellent opportunity. The Navy and Air Force present successful models worthy of application evaluation for the Marine Fighter training squadron at Yuma, Az.

Opportunities for Active Associate Units

Fighter Attack and Aerial Refueling squadrons based at Joint Readiness Base (JRB) Fort Worth, TX offer opportunities for active associations. JRB Fort Worth has the support structure in place to support assigned active duty Marines. The units already incorporate active members as full time support personnel. That support structure will facilitate a smoother transition to the Active Associate construct. Much like the USAF's F-22 associate construct, additional opportunities lay in the F-35 as the Marine Corps

⁷ Laedlin, Scott LCDR; Varias, Mike LCDR; Naval Reserve Force Fully Integrated in the Naval Air Training Command-Producing the World's Best Aviators;
http://www.ausn.org/Portals/0/Services_pdfs/CNATRA-MAR-04.pdf

fields the new weapon system. New units built on an associate model phased in as the new aircraft are present another way to minimize cultural discourse.

Challenges to Implementation

Like the 4th Marine Division, the 4th Marine Air Wing organizational roots lie in the mandate to mirror the active component. As with most Reserve and National Guard units, pride of ownership and concerns over primacy of mission and assets create concern and distrust. Culturally, the associate model will likely face little enthusiasm and probably hostile resistance in the Marine Corps. In the Marine Corps, Major General Gardner's, the Kansas Adjutant General, initial reaction will surely resonate with Reserve aviators and leaders. The General worried his unit would lose its sense of identity, esprit de corps, and a loss of pride of ownership. His response included the comment, "Ownership is important. When was the last time you washed a rental car?"⁸ This attitude and similar comments were echoed in a conversation with a Marine officer serving on the 4th MAW staff in New Orleans. The officer personally saw little benefit in operational units and expressed concerns already mentioned though he did accept the model may have merit in the training units.⁹ While the model shows great potential operationally, limitations may apply as the Marines seek applicability in maintenance.

As the Marine Reserve full-time support differs from the other services, applicability to maintainers is questionable. Active duty Marines provide the full-time support for their Reserve component where the Air Force, Army, and Navy primarily rely

⁸ Castellon, D.; "Associate Wing" Program Faces Opposition, Some Guard Leaders of units losing B-1B Bombers Say New Mission Could threaten Morale; *Air Force Times*; July 30, 2001; p. 18

⁹ Telephone conversation with a Marine Major on August 14, 2012 (name withheld to ensure anonymity).

on dual status technicians for full-time support. This construct makes the model only applicable to the flight crews.

SUMMARY

The Services face significant budget reductions in the near term. Many weapon systems need modernization and refurbishment after more than a decade of war in Afghanistan and Iraq. The Service Chiefs publically state they seek a smaller, highly trained, and ready force over a larger hollow force or one of tiered readiness. To maximize force effectiveness, the Services must implement multipliers that allow maximum leverage and utilization of the limited assets available. The USAF Associate Unit is a proven construct that offers that leverage the Services need, particularly within the flying mission.

Integrating active and reserve aviation units offers opportunities to maximize the utilization of expensive assets. It is important to evaluate roles and missions before one embarks on unit integration. TFI embodies the synergistic relationship possible between active and reserve components. Properly structured, associate units offer both efficiencies and effectiveness. Predictable and sustainable missions are conducive to RC participation as they allow RC members a better opportunity to balance their military service commitments with that of their civilian employers, family, and community.

As previously stated, national security strategists must seek ways to maintain capability despite the impending force and budget reductions. The services should identify and apply efficiencies and best practices from inside the departments, industry, and across the services to maintain required readiness and capabilities. This paper demonstrated how the Air Force TFI construct allows the Services to leverage their RC's expertise and experience, maximize asset utilization, and maintain readiness in a fiscally constrained environment. Research showed the Navy already uses its own TFI model

with its Squadron and Fleet Augmentation units. However, TFI model application opportunities still exist in both the Marine Corps and Army.

As discussed, formal training units offer significant benefits and opportunities. Capturing highly trained and experienced military members who choose to leave active service but still wish to serve is a Total Force win-win scenario. The Air Force and Navy laud their ability to surge or curtail student production by flexing reserve participation. This lesson learned is applicable to other mission sets where workload and mission demands ebb and flow based on a cyclic battle rhythm.

Despite all the AF TFI construct's positive outcomes, challenges and detractors still exist. The fighter unit association at Hill Air Force Base offers important lessons learned on TFI implementation roles. Command relationships at all levels are crucial to successful integration. The formal and personal relationships up and down the chain of command and between component commands are extremely important. The lines of communication must be open to overcome the inevitable friction created when two cultures (AC & RC) combine. Strong leadership is essential when units combine to facilitate communication and create an environment where both organizations share the same vision and goal. Additionally, leaders must ensure unit obligation and capability statements reflect the new construct. The Hill experience highlighted the importance of tasking an organization based on the combined structure.

Many studies and authors list effective leadership traits. Some of the traits and characteristics include integrity, high energy levels, an ability to collaborate and cooperate, the ability to find common ground with others, anticipate how others may

react to a situation, and effectively communicate.¹ These qualities in a commander leading a squadron through integration will contribute to a much more effective organization. Anecdotal discussions with others who served in units as they integrated concurred. Two officers in a Special Operations squadron related their experience and the difficulties of a new AAU. One existing commander resented the association. His attitude permeated the organization creating increased friction between the associate squadrons. The next commander arrived intent on making the best of the situation. He actively sought remedies to difficulties and challenges and transformed unit moral and performance.

Integrating units need clearly defined guidance and time to learn and adjust to different perspectives. To aid in this endeavor, an excellent facilitation tool is the AF/A8F Total Force *Commander's Integration Guide* that explains, in detail, the differences between the three components.² This is especially true with the active duty Army and National Guard as the discord is generational. TFI, if implemented correctly, can greatly increase organization harmony and strengthen Service component relationships. It is important to note integration will not overcome years of mistrust overnight. However, as the Air Force TFI Special Material Expert (SME) surveys demonstrated, it will strengthen the bonds between service AD and RC members through mutual education of each other's capabilities and cultures.

¹ American Library Association, "Leadership Traits," <http://www.ala.org/nmrt/initiatives/ladders/traits/traits> (accessed April 5, 2013)

² *Commander's Integration Guide*. Washington D.C.: U.S. Air Force A8F, 2007 https://www.my.af.mil/gcss-af/USAF/AFP40/d/1074164888/Files/Publications/Commanders_Integration_Guide.pdf (accessed August 14, 2012)

Critics correctly state TFI is not a panacea and some operational limitations exist. It does. However, its benefits outweigh those limitations by providing more mission ready crews and maintainers in a cost effective manner. The Services will each face their own unique challenges. Naysayers will persist, just as detractors still reside within the USAF. Arguably, many active duty leaders would prefer the nation field an all active force with no reserve component. This is politically unrealistic and fiscally imprudent. The RC not only provides cost effective forces but also ties the nation to its armed forces. The active force is stressed after two decades of increased worldwide commitments and a decade of major combat operations. The RC offers an effective option and flexibility to counter downsizing, sequestration, and shrinking budgets. Difficulty in implementation and cultural differences are excuses used to avoid meaningful dialog on how best to meet the nation's security requirements.

Cultural differences are difficult to overcome and the rift between Service active and reserve units sometimes runs deep. The Hill integration is a prime example of difficulties and obstacles to effective implementation. When the USAF fielded the F-22, it created associate units as squadrons converted. This helped alleviate added friction of one unit losing its assigned aircraft as was the case at Hill. As Services deploy the F-35, a similar opportunity will exist.

The Air Mobility Command integrated strategic airlift squadrons for over 40 years and faced difficulties when tactical airlift units first integrated. The SME study showed that, despite initial reservations, those actively involved consider the model successful. The bottom line is success or failure of any organizational change is leadership. Effective, fully engaged leadership is required to drive any change. It is time

for Army and Marine Corps leaders to use lessons learned from the both the Air Force and Navy TFI efforts. As stated earlier, training and fixed wing offer early integration opportunities. The Air Force model, most likely, will need adjustments to meet the specific Service needs and requirements. However, the model works, works well, and is used across most USAF missions just as the Navy uses TFI across their mission sets.

Defense leaders vowed never to fight a war without the RC after Vietnam. Secretary of Defense Laird set Total Force Integration in motion more than 40 years ago and many believe it was, in part, to ensure just that. Today the nation cannot prosecute combat operations without the RC. Air Force associate units exemplify the TFI vision. The model offers efficiencies and more importantly unit effectiveness. Associate units will benefit the Army and Marines if employed properly, particularly in aviation units. The time is now to capitalize on the decade of combat operations and RC integration in those forces. TFI is the way forward.

APPENDIX I: AIR NATIONAL GUARD BASES AND AIRCRAFT

ANG RESOURCE BOOK

TOTAL FORCE STRUCTURE

ANG Installation, Unit & PAA by State & Territory

Source: NGB/ASY Facts & Figures, FY08 President's Budget (PB) position

State/Territory	Location	Unit	Aircraft Type	PAA
ALABAMA	Montgomery, Abston AGS	226 CCG		
	Birmingham Apt	117 ARW 106 ARS	KC-135R	8
		117 IS		
	Dothan, Hall AGS	280 CBCS		
	Dannelly Field	187 FW 100 FS	F-16C/D (Blk 30B)	18
		232 CBCS		
ALASKA	Anchorage, Elmendorf AFB	176 WG 210 RQS 211 RQS 212 RQS 144 AS	HC-130N HH-60G C-130H	3 5 12
	Anchorage, Kulis AGB	Alaskan Rescue Coordination Center 176 ACS		
	Fairbanks, Eielson AFB	168 ARW 168 ARS	KC-135R	8
ARIZONA	Davis-Monthan AFB	214 RG 214 RS	MQ-1B	4
	Papago AIN (Scottsdale)	107 ACS		
	Phoenix Sky Harbor IAP	161 ARW 197 ARS	KC-135R	8
	Tucson IAP	148 FS 152 FS 195 FS	F-16C/D (FTJ) (Blk 25/42)	47
		AATC	F-16C/D (FTJ) (CB)	6

ANG RESOURCE BOOK

TOTAL FORCE STRUCTURE

State/Territory	Location	Unit	Aircraft Type	PAA
ARIZONA (Cont)	Tucson IAP	162 WF		
		162 FW (AZ ANG) Det 1		
ARKANSAS	Fort Smith MAP	188 FW184 FS	A-10C	18
	Jacksonville, Little Rock AFB	189 AW	C-130H (FTJ)	9
		154 TRS 154 WF		
		123 IS		
CALIFORNIA	Marysville, Beale AFB	234 IS		
	Fresno Air Terminal	144 FW 194 FS	F-16C (Blk 25)	18
	Hayward MAP	561 BAND		
	Mountain View, Moffett Field NAS	129 RQW 129 RQS 130 RQS 131 RQS	MC-130P/N HH-60G	4 5
	Sacramento, North Highlands AGS	149 CBCS		
	Ontario IAP	148 CBCS		
	Oxnard, Channel Island AGS	146 AW 115 AS	C-130J MAFFS*	8
		195 WF		
		562 BAND		
	Riverside, March ARB	163 RW 196 RS	MQ-1B	12
		144 FW (CA ANG) Det 1		
	San Diego, Miramar NAS	147 CBCS		
	Van Nuys, Sepulveda AGS	261 CBCS		
	Vandenberg AFB	148 SOPS		

State/Territory	Location	Unit	Aircraft Type	PAA
GEORGIA (Cont)	Marietta, Dobbins ARB	530 Band		
	Savannah, Hunter AGS	117 ACS		
	Savannah IAP	165 AW 158 AS	C-130H	8
		ANG CRTC		
		283 CBCS		
	Warner Robins, Robins AFB	116 ACW 12, 16 & 128 ACCS	E-8C	14
GUAM	Anderson AFB	254 ABG		
		254 SFS		
HAWAII	Makakilo, Barbers Point NAS	297 ATAS		
	Kekaha, Barking Sands Communications	154 ACS 293 CBCS		
	Hilo Comm Site	291 CBCS		
	Honolulu, Hickam AFB	154 WG 199 FS 203 ARS 204 AS	F-22A KC-135R (TBD)	17 12 0
		201 CCG		
	Honolulu, Wheeler AFB	169 AC&WS		
		199 WF		
	Kahului Comm Station	292 CBCS		
IDAHO	Boise Air Terminal	124 FW 190 FS	A-10C	18
		124 ASOS		
		212 CACS		
	Boise, Mountain Home AFB	266 RANS		
ILLINOIS	Belleville, Scott AFB	126 ARW 108 ARS	KC-135R	8

State/Territory	Location	Unit	Aircraft Type	PAA
COLORADO	Aurora, Buckley AFB	140 WG 120 FS	F-16C (Blk 30)	18
		240 CEF		
	Colorado Springs, Peterson AFB	200 AS	C-21A	2
	Greeley AGS	137 SWS		
CONNECTICUT	New Haven, Orange AGS	103 ACS		
	Windsor Locks, Bradley IAP	103 AW 118 AS	C-21A	8
DISTRICT OF COLUMBIA	Camp Springs, MD - Andrews AFB	113 WG 121 FS 201 AS	F-16C/D (Blk 30) C-38A C-40C	18 2 3
		121 WF		
		166 AW 142 AS	C-130H	8
DELAWARE	Wilmington, New Castle Co Apt	166 NWS		
		166 NWS		
		166 NWS		
FLORIDA	Bradford, Camp Blanding AIN	202 RH SQ 159 WF		
	Cocoa Beach, Patrick AFB	114 CBCS		
	Jacksonville IAP	125 FW 159 FS	F-15C/D	18
	Key West, Homestead ARB	125 FW (FL ANG) Det 1		
	Tampa, MacDill AFB	290 JCSS		
	Tyndall AFB	101 AOG		
		701 ADS		
		702 CSS		
GEORGIA	Brunswick, Glynnco AGS	224 JCSS		
		165 ASOS		
	Macon, Lewis B. Wilson Apt	202 EIS		

State/Territory	Location	Unit	Aircraft Type	PAA
ILLINOIS (Cont)	Greater Peoria APT	182 AW 169 AS	C-130H	8
		168 ASOS		
		169 ASOS		
		182 ASOC		
		264 CBCS		
		566 BAND		
	Springfield, Capital MAP	183 FW 170 FS	(TBD)	0
		217 EIS		
		Det 1 HQ INANG		
		122 FW 163 FS	A-10C	16
INDIANA	Camp Atterbury, Edinburgh	207 WF		
		Det 2 HQ INANG		
		181 IW 113 ASOS		
		113 WF		
IOWA	Des Moines IAP	132 FW 124 FS	F-16C CG (Bik 42)	16
		133 TS		
		185 ARW 174 ARS	KC-135R	8
KANSAS	Topeka, Forbes Field	190 ARW 117 ARS	KC-135R	12
		127 WF		
		184 IW 127 CACS		
		134 ACS		
	Wichita, McConnell AFB	177 IAS		
		299 NOSS		
KENTUCKY	Louisville IAP	123 AW 165 AS	C-130H	8

State/Territory	Location	Unit	Aircraft Type	PAA
KENTUCKY (Cont)	Louisville IAP	205 CBCS		
		123 STF		
LOUISIANA	Pineville, Camp Beauregard	122 ASOS		
	Alexandria, Esler Airport	259 ATCS		
	Hammond AGS	236 CBCS		
	Jackson Barracks	214 EIS		
	New Orleans, NAS JRB	159 FW 122 FS	F-15C/D	18
MAINE	Bangor IAP	101 ARW 132 ARS	KC-135R	10
	South Portland AGS	243 EIS		
		265 CBCS		
MARYLAND	Baltimore, Martin State APT	175 WG 104 FS	A-10C	18
		135 AG 135 AS	C-27J	4
MASSACHUSETTS	Falmouth, Otis AGB	102 IW 101 IS		
		202 WF		
		253 CCG		
		267 CBCS		
		567 BAND		
	Milford	212 EIS		
	Westfield, Barnes MAP	104 FW 131 FS	F-15C/D	18
MICHIGAN	Alpena County Reg APT, ANG CRTC	ANG CRTC		
	Battle Creek, W.K. Kellogg APT	110 FW 172 FS	(TBD)	0
	Mount Clemens, Selfridge AGB	127 WG 107 FS	A-10C	24

State/Territory	Location	Unit	Aircraft Type	PAA
MICHIGAN (Cont)	Mount Clemens (cont)	127 ARG 171 ARS	KC-135T	8
		107 WF		
MINNESOTA	Duluth IAP	148 FW 179 FS	F-16C/D (Blk 25)	15
	Minneapolis/St. Paul IAP	133 AW 109 AS		
		210 EIS		
		208 WF		
MISSISSIPPI	Gulfport-Biloxi Regional APT	ANG CRTC 209 CES 255 ACS		
		Jackson IAP	172 AW 183 AS	C-17A
		172 ALC FT		
	Meridian, Key Field	186 ARW 153 ARS	C-27J	1
		238 ASOS		
		248 ATAS		
MISSOURI	St. Joseph, Rosecrans Mem APT	139 AW 180 AS	C-130H	10
	St. Louis, Jefferson Barracks AGS	157 AOG		
		St. Louis, Lambert-St. Louis IAP	110 FS	(TBD)
		231 CEF		
		239 CBCS		
	571 BAND			
	Whiteman AFB	131 FW	(TBD)	0
MONTANA	Great Falls IAP	120 FW 186 FS	F-15C/D	15

State/Territory	Location	Unit	Aircraft Type	PAA
MONTANA (Cont)	Great Falls, Malmstrom AFB	219 RH FT		
		155 ARW 173 ARS		
NEBRASKA	Lincoln MAP	170 GP	KC-135R	8
		170 OSS		
		238 CTS		
NEVADA	Reno-Tahoe IAP	152 AW 152 AS	C-130H	8
		152 IS		
		232 OS		
NEW HAMPSHIRE	Portsmouth, Pease AGS	157 ARW 133 ARS	KC-135R	8
		260 ATAS		
NEW JERSEY	Atlantic City IAP	177 FW 119 FS	F-16C (Blk 25)	18
		108 ARW 141 ARS		
	Wrightstown, McGuire AFB	150 SOS	C-32B	2
		108 CRG		
		108 GMS		
NEW MEXICO	Albuquerque, Kirtland AFB	150 FW 188 FS	(TBD)	0
		105 AW 137 AS		
NEW YORK	Niagara Falls IAP	107 AW 136 AS	C-130H (ASSOC)	1
		213 EIS		
	Rome, Griffiss Business and Technology Park	NEADS 222 CACS		
		109 AW 139 AS		
	Schenectady County APT		C-130H LC-130H	4 10

State/Territory	Location	Unit	Aircraft Type	PAA
NEW YORK (Cont)	Syracuse, Hancock Field	174 RW 138 RS	MQ-9	6
		152 AOG		
		274 ASOS		
NEW YORK	West Hampton Beach, Francis S. Gabreski APT	106 RQW101 RQS102 RQS103 RQS	HC-130P/NHH-60G	45
NORTH CAROLINA	Albermarle-Stanly County Regional APT	118 ASOS		
	Badin AGS	263 CBCS		
	Charlotte/Douglas IAP	145 AW 156 AS 156 WF	C-130H MAFFS*	10
NORTH DAKOTA	Fargo, Hector Field	119 WG 178 RS 177 AS	MQ-1B C-21A	8 8
OHIO	Blue Ash AGS	123 ACS		
	Pt Clinton, Camp Perry AGS	200 RH SQ		
	Mansfield Lahm APT	179 AW 164 AS	C-27J	6
OHIO	Rickenbacker AGS, Columbus IAP	121 ARW 145 ARS 166 ARS	KC-135R	18
		164 WF		
	Springfield-Beckly MAP	178 FW 162 FS	(TBD)	0
		269 CBCS		
		251 CCG		
	Toledo Express APT	180 FW 112 FS	F-16C CG (Blk 42)	18
		555 BAND		
	Zanesville	220 EIS		
OKLAHOMA	Midwest City, Tinker AFB	185 ARS		

State/Territory	Location	Unit	Aircraft Type	PAA
OKLAHOMA (Cont)	Oklahoma City, Will Rogers World APT	137 ARW	KC-135R (ASSOC)	0
		146 ASOS		
		205 EIS		
OKLAHOMA	Tulsa IAP	138 FW 125 FS	F-16C CG (Blk 42)	21
		125 WF		
		219 EIS		
OREGON	Klamath Falls IAP	173 FW 114 FS	F-15C/D (FTU)	21
		270 ATAS		
	Portland IAP	142 FW 123 FS	F-15C/D	18
		244 CBCS		
		123 WF		
	Warrenton, Camp Rilea AIN	116 ACS		
PENNSYLVANIA	Annville, Fort Indiantown Gap AIN	271 CBCS		
		203 WF		
		211 EIS		
		201 RHS		
PENNSYLVANIA	Harrisburg IAP	193 SOW 193 SOS	C-130J EC-130J	3 3
		193 RSG		
		271 CBCS		
		553 BAND		
	Johnstown, Cambria County APT	258 ATAS		
	Pittsburgh IAP	171 ARW 146 ARS 147 ARS	KC-135T	16
		146 WF		

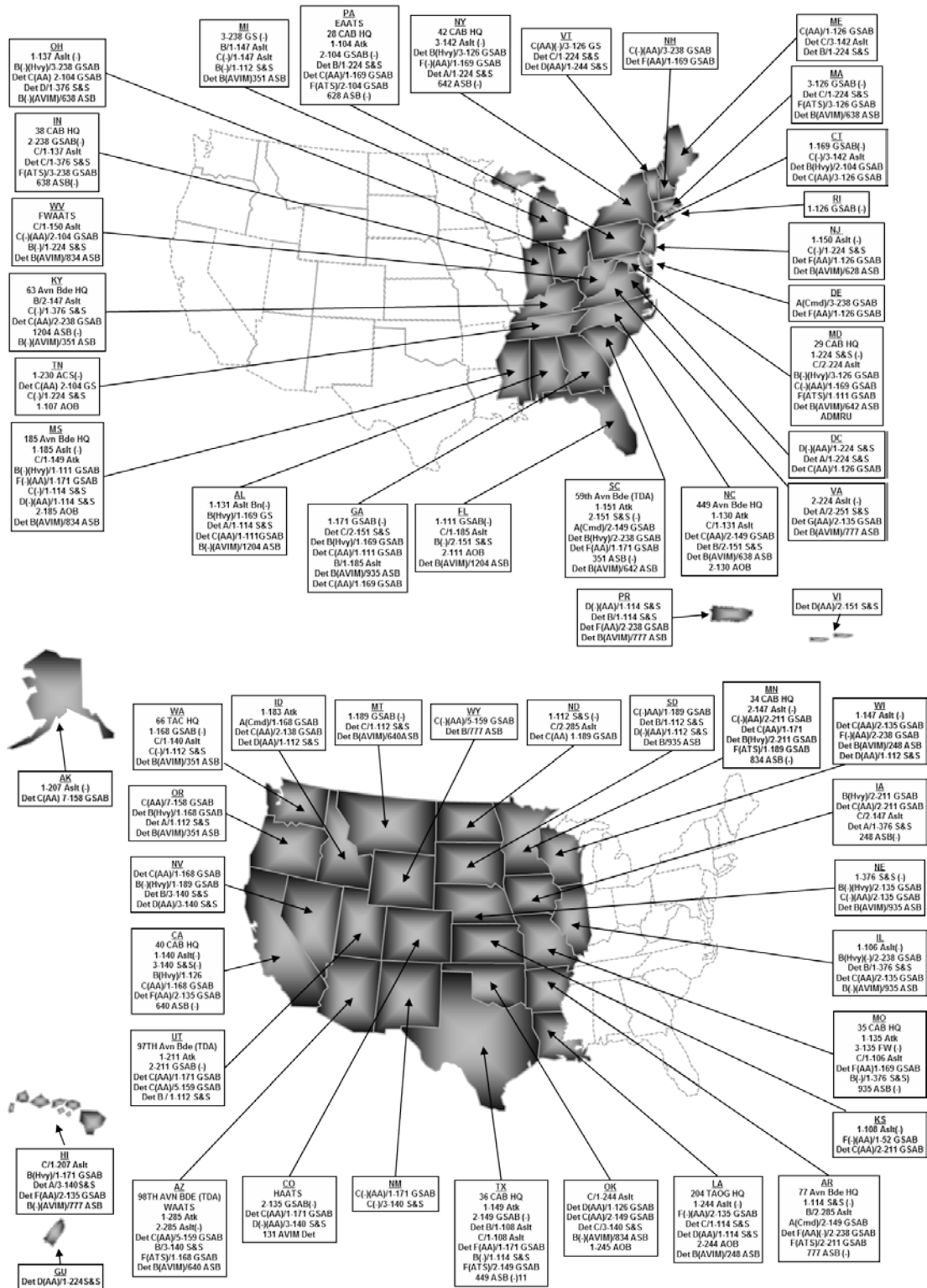
State/Territory	Location	Unit	Aircraft Type	PAA
PENNSYLVANIA (Cont)	State College AGS	112 AOS		
	Philadelphia, Willow Grove ARS	111 FW 103 FS	(TBD)	0
		270 EIS		
PUERTO RICO	Agusdilla, Punta Borinquen Radar Site	141 ACS		
	Catano, Punta Salinas AGS	140 ADS		
	San Juan, Luis Munoz-Marin IAP	156 AW 198 AS	C-130E	6
RHODE ISLAND	Coventry, Coventry AGS	102 NWS		
	Warwick, Quonset State APT	143 AW 143 AS	C-130J	8
	North Smithfield AGS	281 CCG		
SOUTH CAROLINA	Eastover, McEntire JNGB	169 FW 157 FS	F-16C/D (Blk 52)	24
		245 ATAS		
SOUTH DAKOTA	Sioux Falls, Joe Foss Field	114 FW 175 FS	F-16C (Blk30)	18
TENNESSEE	Alcoa AGS	119 CACS		
	Chattanooga, Lovell Field Ang Comm Site	241 EIS		
	McGhee/Tyson Airport	134 ARW 151 ARS	KC-135R	12
		572 BAND		
		228 CBCS		
		ANG TEC		
	Memphis, Memphis IAP	164 AW 155 AS	C-5A	8

State/Territory	Location	Unit	Aircraft Type	PAA
TENNESSEE (Cont)	Nashville Metropolitan APT	118 AW 105 AS	C-130H WC-130H	0 6
		105 WF		
TEXAS	Austin, Camp Mabry Ain	209 WF		
	Beaumont, Nederland Ang Comm Site	273 EIS		
	Fort Bliss, Biggs Aux Airfield	204 SFS		
	Fort Worth, Naval AS, Forth Worth	136 AW 181 AS	C-130H	8
		181 WF		
		531 BAND		
	Garland, Garland AGS	254 CCG		
		221 CBCS		
	Houston, Ellington Field	147 RW 111 RS	MQ-1B	12
		147 ASOS		
		111 WF		
		138 FW (OK ANG) Det 1		
	La Porte, La Porte AGS	272 EIS		
	San Antonio, Kelly Field Annex	149 FW 182 FS	F-16C/D (FTU) (Blk 30)	18
	San Antonio, Goddellow AFB	217 TRS		
UTAH	Ogden, Hill AFB	299 RCS		
	Salt Lake City IAP	151 ARW 191 ARS	KC-135R	8
		130 EIS		
		109 ACS		
		169 IS		
		101 IOF		

State/Territory	Location	Unit	Aircraft Type	PAA
VERMONT	Burlington IAP	158 FW 134 FS	F-16C (Blk 30)	18
		192 FW (VA ANG) Det 1		
	Northfield	229 IOS		
VIRGINIA	Virginia Beach, Camp Pendleton AIN	203 RH FT		
	Hampton, Langley AFB	192 FW 149 FS	F-16C/D (ASSOC)	0
		192 IS		
VIRGIN ISLANDS	St Croix AGS	285 CBCS		
WASHINGTON	Cheney, McChord AFB	262 NWS		
		111 ASOC		
		WADS		
		Det 1 HQ WA ANG		
	Tacoma, Camp Murray AGS	116 ASOS		
		116 WF		
		173 MGF		
		194 RSW		
		194 IS		
		241 CES		
		248 CEF		
		252 CCG		
		254 RHS		
	Cheney, Four Lakes AGS	256 CBCS		
	Everett, Paine Field Ang Comm Site	215 EIS		
	Seattle ANG Comm Site	143 CBCS		
	Spokane IAP	242 CBCS		
	Spokane, Fairchild AFB	141 ARW 116 ARS	KC-135R (ASSOC)	0
		560 BAND		

State/Territory	Location	Unit	Aircraft Type	PAA
WEST VIRGINIA	Charleston, Yeager APT	130 AW 130 AS	C-130H	8
	Martinsburg, Ewv Regional APT/Shepherd Field	167 AW 167 AS	C-5A	10
WISCONSIN	Madison, Truax Fld	115 FW 176 FS	F-16C (Blk 30B)	18
	Milwaukee, Gen. Mitchell IAP	128 ARW 126 ARS	KC-135R	12
		126 WF		
	New Lisbon, Volk Field	128 ACS		
		ANG CRTG		
WYOMING	Cheyenne Municipal APT	153 AW 187 AS	C-130H MAFFS*	12
		242 ATAS		
	Cheyenne, F.E. Warren AFB	153 CACS		

APPENDIX II: ARMY NATIONAL GUARD AVIATION UNITS



APPENDIX III: VITA

Lieutenant Colonel James W. Kellogg, Jr. most recently commanded the 328th Airlift Squadron at Niagara Falls Air Reserve Station, NY. LtCol Kellogg earned his commission in 1988 from the Air Force Reserve Officer Training Corps. He served operationally in conventional and special operations C-130s and C-5s, served on the Air Mobility Command (AMC) A3 staff as a Mobility Special Material Expert for CJCS exercises, Chief of AMC Crisis Action Team (CAT) Operations, and Deputy Director, Commander's Action Group, Air Force Reserve Command. LtCol Kellogg flew missions in support of Desert Shield/Storm, Operation Provide Comfort I/II/III, Operation Uphold Democracy, ONE, OIF, OND, among others. He earned his Bachelor's of Business Administration in Business Management from the University of Texas at San Antonio and his Master's of Aerospace Science with an emphasis in Aviation Safety from Embry-Riddle Aeronautical University.

APPENDIX IV: ABBREVIATIONS

AD – Active Duty

ADCON – Administrative Control

ADSW – Active Duty for Special Work

ADT – Active Duty for Training

AEF – Aerospace Expeditionary Forces

AFI – Air Force Instruction

AFPD – Air Force Policy Directive

AFR – Air Force Reserve

AFRC – Air Force Reserve Command

AFTP – Additional Flying Training Period

AGR – Active Guard and Reserve

AL – Annual Leave

ANG – Air National Guard

ANGRC – Air National Guard Readiness Center

ANGUS – Air National Guard of the United States

ARC – Air Reserve Components

ARFORGEN – Army Force Generation

ARPC – Air Reserve Personnel Center

ART – Air Reserve Technician

AT – Annual Training

BAH – Basic Allowance for Housing

CDU – Critical Dual Use Assets

CNGB – Chief, National Guard Bureau

COE – Certificate of Eligibility

COMAFFOR – Commander, Air Force Forces

CPF – Civilian Personnel Flight

CPO – Civilian Personnel Officer

CT – Compensatory Time

DoD – Department of Defense

EQT – Equivalent Training

ESSO – Executive Staff Support Officer

FST – Formal School Training

FTNGD – Full-Time National Guard Duty

GSU – Geographically Separated Unit

IDT – Inactive Duty for Training

IG – Inspector General

IMA – Individual Mobilization Augmentee

IR – Internal Review

IRT – Innovative Readiness Training

JA- Judge Advocate

JFHQ – Joint Force Headquarters (State)

JP – Joint Publication

MCP – Materiel Change Plan or Materiel Change Program

MILCON – Military Construction

MILPO – Military Personnel Officer

MOA – Memorandum of Agreement

MOU – Memorandum of Understanding

MPA – Military Personnel Appropriation

MPF – Military Personnel Flight

MSG – Mission Support Group

NAVAL SQUADRON DESIGNATIONS

HC	Helicopter Combat Support Squadron
HCS	Helicopter Combat Support Special Squadron
HM	Helicopter Mine Countermeasures Squadron
HSL	Helicopter Anti-Submarine Squadron (Light)
HT	Helicopter Training Squadron
VA	Attack Squadron
VAQ	Carrier Tactical Electronics Warfare Squadron or Tactical Electronics Warfare Squadron
VAW	Carrier Airborne Early Warning Squadron
VC	Fleet Composite Squadron
VF	Fighter Squadron
VFA	Strike Fighter Squadron
VP	Patrol Squadron
VPU	Patrol Squadron Special Unit
VQ	Fleet Air Reconnaissance Squadron
VR	Fleet Logistics Support Squadron
VRC	Fleet Logistics Support Squadron
VS	Sea Control Squadron
VT	Training Squadron
VX	Air Test and Evaluation Squadron
VXE	Antarctic Development Squadron

NCO – Non-Commissioned Officer

NFRC - Naval Reserve Flying Corps

NGB – National Guard Bureau

OASD – Office of the Assistant Secretary of Defense

OCONUS – Outside of the Continental United States

OPCON – Operational Control

OPR – Officer Personnel Record

OPTEMPO – Operations Tempo

PCS – Permanent Change of Station

PM – Partial Mobilization

POTUS – President of the United States

PRC – Presidential Reserve Call-up

PT – Proficiency Training

REGAF – Regular Air Force

ROUTA - Rescheduled Unit Training Assembly

SAD – State Active Duty

SAF – Secretary of the Air Force

SECAF – Secretary of the Air Force

SJA – Staff Judge Advocate

ST – Special Training

SUTA – Split Unit Training Assembly

TACON – Tactical Control

TAB – Theater Aviation Brigade or Theater Aviation Battalion (Fixed Wing)

TAG – The Adjutant General

TEC – Training and Education Center

TOA – Table of Allowance

TAOG – Theater Aviation Operations Group

TPPA – Training Period Preparation Assembly

TPR – Technician Personnel Regulation

TR - Traditional Reservist

UCMJ – Uniform Code of Military Justice

UE – Unit Equipped

UMD – Unit Manning Document

USAFR – United States Air Force Reserve

USC – United States Code

USCA – United States Code Annotated

UTA – Unit Training Assembly

XO - Executive Officer

APPENDIX V: DEFINITION OF TERMS

Activation—Order to active duty (other than for training) in the Federal service. (DODD 1235.10)

Active Associate—an ARC unit has principle responsibility for a weapon system that it shares with one or more regular units. Reserve and regular units retain separate organizational structures and chains of command. (AFDD2)

Active Associate—An integration model where a reserve component unit has principal responsibility for weapon system or systems, which it shares with one or more regular units. Reserve and Regular component units retain separate organizational structures and chains of command. Varying degrees of functional integration based MOUs. (AFPD 90-10)

Community Basing—A variation on the Active Associate model where Regular component forces are garrisoned at a reserve component unit location. Support functions traditionally provided on a Regular component installation (housing, medical, commissary, BX, etc) are instead available in the local community. (AFPD 90-10)

Active Component (AC)—That portion of the armed forces as identified in annual authorization acts as —active forces, and in 10 USC 115 as those active-duty personnel paid from funds appropriated for active-duty personnel. (DODI 1215.06)

Active Duty—Full-time duty in the active Military Service of the United States. It includes fulltime training duty, annual training duty, and attendance, while in active Military Service, at a school designated as a Service school by law and the Secretary of the Military Department concerned. It does not include full-time National Guard duty. At any time, an authority designated by the Secretary concerned may order a member of the

RC under his or her jurisdiction to AD or retain the member on AD with the consent of the member under the authority of Sections 12301(d), 12301(h) and 12322 of reference (g). However, a member of the Army National Guard of the United States (ARNGUS) or Air National Guard of the United States (ANGUS) may not be ordered to AD under that authority without the consent of the Governor or other appropriate authority of the State or territory, the Commonwealth of Puerto Rico, or the District of Columbia. For the RC, AD is comprised of the categories ADT and ADOT. (DODI 1215.06)

Active Duty for Operations Support (formerly known as Active Duty for Special Work)—Authorized voluntary AD for RC personnel funded through applicable military or Reserve personnel appropriations (ADOS-AC funded or ADOS-RC funded) to support AC or RC programs, respectively. The purpose of ADOS is to provide the necessary skilled manpower assets to support existing or emerging requirements. **(DODI 1215.06)**

Active Duty for Training (ADT)—A category of AD that shall be used to provide structured individual and/or unit training, including on-the-job-training, or educational courses to RC members. Included in the ADT category are annual training (AT), initial ADT (IADT), and other training duty (OTD). The primary purpose of ADT is to provide individual and/or unit readiness training. Support to mission requirements, i.e., operational support, may occur as a consequence of performing ADT. (DODI 1215.06)

Active Duty Other than for Training (ADOT)—A category of AD used to provide RC support to either AC or RC missions. It includes the categories of active duty for operational support (ADOS) (formerly active duty for special work (ADSW), Active Guard and Reserve (AGR) duty, and involuntary AD pursuant to Sections 12301, 12302,

and 12304 of reference (g) and Section 712 of reference (h). Training may occur as a consequence of performing ADOT.

Active Guard and Reserve (AGR)—National Guard and Reserve members who are on voluntary active duty providing full-time support to National Guard, Reserve, and Active Component organizations for the purpose of organizing, administering, recruiting, instructing, or training the Reserve Components. (JP 1-02)

Administrative Control (ADCON)—Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. (JP 1-02)

Air Force—The Air Force consists of — (1) the Regular Air Force, the Air National Guard of the United States, the Air National Guard while in the service of the United States, and the Air Force Reserve; (2) all persons appointed or enlisted in, or conscripted into, the Air Force without component; and (3) all Air Force units and other Air Force organizations, with their installations and supporting and auxiliary combat, training, administrative, and logistic elements; and all members of the Air Force, including those not assigned to units; necessary to form the basis for a complete and immediate mobilization for the national defense in the event of a national Emergency. (10 USC, Section 8062(d))

Air Force Reserve (AFR)—The Air Force Reserve is a reserve component of the Air Force to provide a reserve for active duty. It consists of the members of the officers"

section of the Air Force Reserve and of the enlisted section of the Air Force Reserve. It includes all Reserves of the Air Force who are not members of the Air National Guard of the United States. (10 USC 1003 sec 10110)

Air Force Reserve Command (AFRC)——- (a) Establishment of Command. - The Secretary of the Air Force, with the advice and assistance of the Chief of Staff of the Air Force, shall establish an Air Force Reserve Command. The Air Force Reserve Command shall be operated as a separate command of the Air Force. (b) Commander. - The Chief of Air Force Reserve is the Commander of the Air Force Reserve Command. The commander of the Air Force Reserve Command reports directly to the Chief of Staff of the Air Force. (c) Assignment of Forces. – The Secretary of the Air Force - (1) shall assign to the Air Force Reserve Command all forces of the Air Force Reserve stationed in the continental United States other than forces assigned to the unified combatant command for special operations forces established pursuant to section 167 of this title; and (2) except as otherwise directed by the Secretary of Defense in the case of forces assigned to carry out functions of the Secretary of the Air Force specified in section 8013 of this title, shall assign to the combatant commands all such forces assigned to the Air Force Reserve Command under paragraph (1) in the manner specified by the Secretary of Defense. (10 USC Chapter 1006 Sec. 10174

Air National Guard (ANG)——"Air National Guard" means that part of the organized militia of the several States and Territories, Puerto Rico, and the District of Columbia, active and inactive, that - (A) is an air force; (B) is trained, and has its officers appointed, under the sixteenth clause of section 8, article I of the Constitution; (C) is organized,

armed, and equipped wholly or partly at Federal expense; and (D) is federally recognized. (US Code, Title 32, Section 101 (6) – also, US Code Title 10, section 101 (4)).

Air National Guard of the United States (ANGUS)—The reserve component of the Air Force all of whose members are members of the Air National Guard. (US Code, Title 32, Section 101 (7) – also, US Code, Title 10, Section 101 (5)).

Air Reserve Component (ARC)—The forces of Air National Guard and the Air Force Reserve Command. Also called ARC. (HQ AFRC, HQ ANG) (AFDD 1-2)

Air Reserve Components (ARC) Associate—Two or more ARC units integrate with one retaining principal responsibility for the weapon system. Each unit retains separate organizational structures and chains of command. (AFDD2)

Air Reserve Components (ARC) Associate—An integration model where the ARC components integrate two or more ARC units with one component's unit retaining principal responsibility for weapon system or systems, which are shared by all. Each unit retains separate organizational structures and chains of commands. Varying degrees of functional integration are based on MOUs.

Air Reserve Technician (ART) Also see Military Technician (Dual Status)—Air Reserve Technicians (ARTs) are federal civil service employees who are hired to ensure stable, continuous management of the part-time Ready Reserve. As a condition of employment, they must be Ready Reservists, training with the units that employ them. ARTs are a nucleus of managers, planners and trainers who have knowledge and expertise to smooth an Air Force Reserve Command unit's transition from a peacetime to a wartime environment. They provide management continuity, equipment maintenance and training support to help keep their units combat ready. Aside from being tasked to

perform these duties to include their wartime skills, ARTs in various career fields also perform the unit's full-time mission (e.g., base operations support functions). ARTs who lose their Reserve assignment may be subject to separation from their civil service position. Numerous factors affect such a determination, including the reasons for the loss, the type of position occupied, physical limitations, etc. Different factors apply to different situations and the potential combinations are too numerous to mention here. (AF/REP)

Annual Training (AT)—The minimal period of training reserve members (Guard associated with their Reserve (Guard) Component assignment per Joint Publication 1-02)(12 or 14 days for Ready Reserve assignments per AFMAN 36-8001) must perform each year to satisfy the training requirements. Funding for annual tours is obtained through the utilization of Reserve Personnel Appropriation (RPA)/National Guard Personnel Appropriation (NGPA) Man-days for AFRC and ANG personnel respectively. Reservists receive full military benefits during this period IAW AFI 36-8001. It is also called Annual Field Training for Category A Reservists, which is a fifteen day training period in which Reservists are placed on active duty for training purposes.

Assign—(DOD, NATO) 1. To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. 2. To detail individuals to specific duties or functions where such duties or functions are primary and/or relatively permanent. See also attached forces. (JP 1-02)

Attach—(DOD) 1. The placement of units or personnel in an organization where such placement is relatively temporary. 2. The detailing of individuals to specific functions

where such functions are secondary or relatively temporary, e.g., attached for quarters and rations; attached for flying duty. (JP 1-02)

Availability—(DOD) Availability shown in the apportionment tables is based on a unit's capability to start and sustain movement from its normal geographic location (installation or mobilization station). Forward-deployed (in-place) forces are assumed to be available immediately for employment or repositioning. Forces are listed with availability as it pertains to notification day for Active forces, and PSRC and partial mobilization for Reserve forces. (CJCSM 3110.01A/JSCP)

Civil Service Employee (CIVs)—Personnel hired pursuant to 5 U.S.C. 3101 to provide administrative support to RC units. They are in the category of FTS to the RCs, but are not part of the Selected Reserve. This category is exclusive of dual-status MTs and NDSTs. (DODI 1215.06)

Classic Associate—A regular Air Force unit retains principal responsibility for a weapon system that it shares with one or more ARC units. Administrative control will remain with the respective components. (AFDD2)

Classic Associate—An integration model where a Regular Air Force component unit retains principal responsibility for weapon system or systems, which it shares with one or more Reserve Component units. Regular and Reserve component units retain separate organizational structures and chains of command. Varying degrees of functional integration based on MOUs. (AFPD 90-10)

Command—1. The authority that a commander in the Armed Forces lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment

of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. 2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. 3. A unit or units, an organization, or an area under the command of one individual. See also combatant command; combatant command (command authority). Also called CMD. (JP 1-02)

Command and Control (Also called C2)—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. (JP 1-02)

Command Relationships—The interrelated responsibilities between commanders, as well as the operational authority exercised by commanders in the chain of command; defined further as combatant command (command authority), operational control, tactical control, or support. (JP 1-02)

Control—Authority that may be less than full command exercised by a commander over part of the activities of subordinate or other organizations. (JP 1-02)

Critical Dual Use assets – Assets required for Homeland Defense, Security, and Crisis Response as well as overseas contingency operations. (U.S. Army G-8 Equipping Strategy, p.7; http://www.g8.army.mil/pdf/army_equipping_strategy.pdf)

Detailing—The placement of a member of one service component to another service component to allow that individual to work day-to-day in a squadron commanded by another component commander (e.g., Title 10 working in a Title 32 squadron and vice versa).

Drill Status Guardsman (DSG)—Air National Guard officer or enlisted members of the Selected Reserve required to assemble for drill and instruction, including indoor target practice, at least 48 times each year; and participate in training at encampments, maneuvers, outdoor target practice, or other exercises, at least 15 days each year (32 USC 502). DSGs can be activated (voluntarily or involuntarily) to active duty.

Extended Active Duty (EAD)—An active duty status (normally for more than 90 days) other than active duty for training or temporary tours of active duty. Personnel on EAD are assigned to an active duty unit, and accountability is against active force strength. (AFMAN 36-8001)

Direct Liaison Authorized—That authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within or outside of the granting command. Direct liaison authorized is more applicable to planning than operations and always carries with it the requirement of keeping the commander granting direct liaison authorized informed. Direct liaison authorized is a coordination relationship, not an authority through which command may be exercised. Also called DIRLAUTH. (JP 1-02)

Full-time National Guard Duty (FTNGD)—Training or other duty, other than inactive duty, performed by a member of the ARNGUS or the ANGUS in a member's status as a member of the National Guard of a state or territory, the Commonwealth or Puerto Rico,

or the District of Columbia pursuant to Sections. 316, 502, 503, 504, or 505 of reference (i) for which the member is entitled to pay from the United States, or for which the member has waived pay from the United States. FTNGD is active service. (DODI 1215.06)

Functional Component Command—(DOD) A command normally, but not necessarily, composed of forces of two or more Military Departments which may be established across the range of military operations to perform particular operational missions that may be of short duration or may extend over a period of time. See also component; Service component command. (JP 1-02)

Inactive Duty Training (IDT)—Authorized training performed by members of an RC not on AD or FTNGD, and performed in connection with the prescribed activities of the RC, of which they are a member. It consists of regularly scheduled unit training periods, ATPs, and equivalent training. (DODI 1215.06)

Integration—The process of harmonizing the organization of two or more Air Force component units (including Regular Air Force, Guard, and Reserve Components, civilians and contractors) in order to unify training, equipping, supply, recruiting, servicing, mobilizing, demobilizing, administering, maintaining, etc. (AFPD 90-10)

Lead Agency—(DOD) Designated among U.S. Government agencies to coordinate the interagency oversight of the day-to-day conduct of an ongoing operation. The lead agency is to chair the interagency working group established to coordinate policy related to a particular operation. The lead agency determines the agenda, ensures cohesion among the agencies and is responsible for implementing decisions. (JP 1-02)

MACRO Integration Plan—A MAJCOM to MAJCOM/NGB level plan, crafted and

coordinated solely at the MAJCOM level, that identifies a class of Total Force Integration initiatives and sets a strategic direction for this class of initiative, serves both as a basis for the development of an association specific I-Plan addendum and supporting implementation documents, and does not contain unit specific implementation concepts or details.

Military Personnel Appropriation (MPA) Man-Days [10 USC 12301(d)]—Support shortterm needs of the active force by authorizing mandays annually to non-Extended Active Duty (EAD) officers, NCOs and airmen. These days are offered at the convenience of the government and when there is a temporary need for ARC personnel with unique skills or resources that cannot be economically met in the active force. Pay and allowances for personnel performing man-days is from the MPA account (an active duty account) managed by AF/A1XX. ARC member must volunteer to perform MPA (AFI 36-2619).

Military Technician (Dual Status)—A Federal civilian employee who is (a) employed under section 3101 of title 5 or section 709 of title 32 ; (b) required as a condition of that employment to maintain membership in the Selected Reserve; and (c) assigned to a civilian position as a technician in the organizing, administering, instructing, or training of the Selected Reserve/National Guard or in the maintenance and repair of supplies or equipment issued to the Selected Reserve/National Guard or the armed forces. Air Reserve Technicians (ARTs) perform as Category A reservists when in Military Status. All dual status military technicians must be in mobilization positions (excludes National Guard civilian or contract —technicians|| hired under 32 U.S.C. and personnel identified

as Status Quo) per the Reserve Component 101 Handbook (10 USC 10216, 5 USC 3101, 32 USC 709, ANGI 36-101 and the OASD (RA) Reserve Component Primer).

Mobilization—The act of assembling and organizing national resources to support national objectives in time of war or other emergencies; the process by which the Armed Forces or part of them are brought to a state of readiness for war or other national emergency. This includes activating all or part of the RC and assembling and organizing personnel, supplies, and materiel. Mobilization of the Armed Forces includes, but is not limited to the following categories:

Selective Mobilization—Expansion of the active Armed Forces resulting from action by the Congress and/or the President to mobilize RC units, the IRR, and the resources needed to meet the requirements of a military operational mission or specific domestic emergency as prescribed by statute.

Partial Mobilization—Expansion of the active Armed Forces resulting from action by the Congress (up to full mobilization) or by the President (not more than 1,000,000 for not more than 24 consecutive months) to mobilize Ready RC units, individual Reservists, and the resources needed for their support to meet the requirements of a war or other national emergency involving an external threat to the national security.

Presidential Reserve Call-up (PRC) [10 USC 12304]—If the President determines that it is necessary to augment the active forces for any operational mission, the Service secretary or his designate may order not more than 200,000 of the Select Reserve to active duty (other than for training) for the not more than 365 consecutive days. Up to 30,000 members of the Individual Ready Reserve

may be part of the 200,000 Select Reserve total. The President does not have to declare a national emergency but does have to inform Congress. The PRC may be used to cover incidents involving Weapons of Mass Destruction.

Full Mobilization—Expansion of the active Armed Forces resulting from action by the Congress and the President to mobilize all RC units in the existing approved force structure, all individual Reservists, retired military personnel, and the resources needed for their support to meet the requirements of a war or other national emergency involving an external threat to the national security. Reserve personnel can be placed on active duty for the duration of the emergency plus 6 months.

Total Mobilization—Expansion of the active Armed Forces resulting from action by the Congress and the President to organize and/or generate additional units or personnel beyond the existing force structure, and the resources needed for their support, to meet the total requirements of a war or other national emergency involving an external threat to the national security. (DODD 1235.10 – consistent with JP 1-02)

National Guard—means the Army National Guard and the Air National Guard. (USC Title 32, section 101 (3) also, USC Title 10, section 101 (c)(1))

Non-Dual Status Technicians—Civilian employees employed by the Department of Defense as technicians but who are not required to maintain military membership in the Selected Reserve. The total number of non-dual status technicians employed by the National Guard may not exceed 1,950. Effective October 1, 2007, the total number of

non-dual status technicians employed by the Army Reserve and Air Force Reserve may not exceed 175 (10 USC 10217, 32 USC 709, Reserve Component 101 Handbook).

Operations Tempo—The rate at which units of the armed forces are involved in all military activities, including contingency operations, exercises, and training deployments. (US Code Title 10, Chap 23, section 487)

Operational Control—Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called OPCON. (JP 1-02)

Operational Direction—The authority to designate objectives, assign tasks, and provide the direction necessary to accomplish the mission or operation and ensure unity of effort. Authority for operational direction of one component member over members of another component is obtained by agreements between unit commanders (most often between Title 10 and Title 32 commanders) whereby these component commanders, in an associate organizational structure, issue orders to their subordinates to follow the operational direction of specified/designated AFI90-1001_ACCSUP_I 27 AUGUST 2010 37 senior members of the other component for the purpose of accomplishing their associated mission.

NOTE: —Operational Direction is not a formally recognized command authority.

It is used in AFI 90-1001 and is internal to TFI operations only.

Personnel Tempo (PERSTEMPO)—Personnel Tempo is a quality of life measurement that measures the amount of time an individual spends away from his or her home station for operational and training purposes which includes TDY and designated dependent-restricted PCS assignments. Individuals serving on designated unaccompanied tours are counted as —deployed for PERSTEMPO purposes whether they have dependents or not. The desired maximum number of days TDY per person in a 12-month period is 120.

(AFPD 36-21)

Regular Air Force (RegAF)—The Regular Air Force is the component of the Air Force that consists of persons whose continuous service on active duty in both peace and war is contemplated by law, and of retired members of the Regular Air Force. (b) The Regular Air Force includes -- (1) the officers and enlisted members of the Regular Air Force; (2) the professors, registrar, and cadets at the United States Air Force Academy;

and (3) the retired officers and enlisted members of the Regular Air Force. (10 USC, Section 8075)

Reserve Components (RCs)—The Reserve Components of the U.S. Armed Forces are: the Army National Guard of the United States (ARNGUS), the U.S. Army Reserve (USAR), the U.S. Navy Reserve (USNR), the U.S. Marine Corps Reserve (USMCR), the Air National Guard of the United States (ANGUS), the U.S. Air Force Reserve (USAFR), and the U.S. Coast Guard Reserve (USCGR). (DODI 1215.06)

Stop Light Chart Definitions:—

Red: the mission is in jeopardy and management action must be taken to correct the problem—Examples of this might be: the process is failed, the document has not been written/staffed, there is no known get well date, or cannot meet established milestones, lack of funding for support, etc.

Yellow: the job is getting done but there are problems ...however, there is a get well date plus management is monitoring the situation—Examples might be: data points on a control chart might be headed in the wrong direction, the document is being staffed and is behind schedule, the numbers aren't right, work-arounds are required, etc. NOTE: Any yellow or red indicator will require that the MAJCOM (or the responsible command/functional agency) provide an explanation of why things are not green and a get well plan.

Green: Everything is up and running, no problems, progressing to meet deadlines—Examples might be: time lines are being met, data is all coming back within limits, documents have completed the staffing process (or in the case

where the timing is not an issue, documents are being produced and are projected to be ready in time for execution of activities). (AF/A8X)

The Adjutant General (TAG)—The officer in charge of the National Guard in one of the U.S. states, territories, or District of Columbia. (AF/A8X)

Table of Allowance — An equipment allowance document that prescribes basic allowances of organizational equipment, and provides the control to develop, revise, or change equipment authorization inventory data. Also called TOA. (JP 1-02)

Total Force—The US Air Force organizations, units, and individuals that provide the capabilities to support the Department of Defense in implementing the national security strategy. Total Force includes Regular Air Force, Air National Guard of the United States, and Air Force Reserve military personnel, US Air Force military retired members, US Air Force civilian personnel (including foreign national direct- and indirect-hire, as well as non-appropriated fund employees), contractor staff, and host-nation support personnel. (AFDD 1-2)

Total Force Integration Tracking Tool (TFITT)—A database created for all TFI initiatives to monitor implementation status of each using a —stop light|| dashboard for critical implementation components. This database provides the impetus for all stakeholders to engage in a collaborative process to ensure this single source of initiative data is updated and accurate. (AF/A8X)

Traditional Reservist (TR)—A drilling unit member of the Selected Reserve who must participate in at least 48 scheduled drills or training periods during each year and serve on active duty for training of not less than 14 days during each year; or serve on active duty

for training not more than 30 days during each year (10 U.S.C. 10143, 10147). TRs can be mobilized (voluntarily or involuntarily) to active duty.

Unit Training Assembly (UTA)—An authorized and scheduled period of unit inactive duty training of a prescribed length of time. (JP 1-02)

Unit Type Code—A Joint Chiefs of Staff developed and assigned code, consisting of five characters that uniquely identify a "type unit." (JP 1-02)

Volunteerism—The process by which the SECAF places on active duty those ARC members who have volunteered for activation. The ARC structure retains ADCON except for forces attached to the COMAFFOR; the COMAFFOR has specified ADCON over assigned and attached forces. OPCON transfers in accordance with SecDef orders. Volunteerism is usually used as a bridge to expand regular component force capabilities while awaiting legal authority for Presidential Reserve Callup authority. Volunteerism is used to partially offset high regular component operational tempos in the overseas theaters and in CONUS. (AFDD2)

BIBLIOGRAPHY

- "166th Aviation Brigade Home Page". U.S. Army.
http://www.hood.army.mil/div_west/166AVBDE.html (accessed August 22, 2012).
- 2012 Air National Guard Resource Book*.
<http://www.ang.af.mil/2012angresourcebook.asp>. Washington, D.C. ed. U.S. Air National Guard, 2012. (accessed October 4, 2012)
- AFRC Mission Brief*. AFRC/CCX, Robins AFB, Georgia. 2012.
- American Library Association, "Leadership Traits,"
<http://www.ala.org/nmrt/initiatives/ladders/traits/traits> (accessed April 5, 2013)
- Army National Guard 2012 Posture Statement*. Washington, D.C.: National Guard Bureau, 2012.
- Aviation Operations, WCWP 3-2*. Quantico, Virginia: U.S. Marine Corps, 2000.
- Total Force Concept*. Washington D.C.: U.S. Air Force A8XF, 2012.
- Total Force Enterprise Division Briefing*. Washington D.C.: U.S. Air Force A8XF, 2012.
- "The Air National Guard History."
<http://www.nationalguard.mil/media/factsheets/2011/ANGpercent20Historypercent20Marpercent202011.pdf> (accessed December 11, 2012).
- "Army National Guard History."
<http://www.nationalguard.mil/media/factsheets/2011/ARNGpercent20Historypercent20Marpercent202011.pdf> (accessed December 11, 2012).
- Implementing the Army Force Generation Model in the Army National Guard White Paper*. Washington D.C.: National Guard Bureau, 2011.
- Joint Publication 1-02*
Department of Defense Dictionary of Military and Associated Terms. Washington D.C.: Department of Defense, 2011.
- US Code Title 10 Subtitle E* 2011.
- "War Plan Orange." Global Security. <http://www.globalsecurity.org/military/ops/war-plan-orange.htm> (accessed January 25, 2013).

Air Force Instruction 90-1001, Air Combat Command Supplement 1. Langley AFB, VA.: U. S. Air Force Air Combat Command, 2010.

"Air National Guard Fact Sheet." U.S. Air Force.
<http://www.af.mil/information/factsheets/factsheet.asp?id=160> (accessed December 11, 2012).

Army Reserve Readies Only Aviation Brigade for Deployment to Haiti. Staff Sgt. Alyn-Michael Macleod. United States Army. Federal Information & News Dispatch, Inc., 2010, <http://search.proquest.com/docview/190435137?accountid=12686>.

Fighter Drawdown Dynamics. Effects on Aircrew Inventories. Santa Monica, CA: Rand Corporation, 2009.

"US NAVY: Mobile Training Teams Embody Total Force Integration." *M2 Presswire*, Mar 26, 2009, 2009.
<http://search.proquest.com/docview/444321025?accountid=12686> (accessed August 6, 2012).

ACC/AFRC Hill TFI Collection A9 Summary After Action Report. U.S. Air Force ACC A9L and AFRC A9L, 2008.

Air Force Instruction 90-1001. Washington D.C.: U.S. Air Force, 2008.

Air Force Personnel Reductions Audit Report. Washington D.C.: Air Force Audit Agency, 2008.

"Army Aviation History." <http://www.army.mil/aviation/> (accessed January 16, 2013).

"4th MAW Laydown of Forces." Wikipedia.
http://en.wikipedia.org/wiki/File:4th_MAW_laydown_of_forces.jpg (accessed October 23, 2012).

Commander's Integration Guide. Washington D.C.: U.S. Air Force A8F, 2007.
https://www.my.af.mil/gcss-af/USAF/AFP40/d/1074164888/Files/Publications/Commanders_Integration_Guide.pdf (accessed August 14, 2012)

Supporting the Future Total Force: A Methodology for Evaluating Potential Air National Guard Mission Assignments. Rand Corporation, 2007.

Total Force Integration, Lessons Learned Report. Washington, D.C.: U.S. Air Force A8, A9, 2007.

*Air Force Policy Directive 90-10
Total Force Integration Policy.* Washington, D.C.: U.S. Air Force A8X, 2006.

- "U.S. Navy Squadron Designations and Abbreviations." U.S. Navy.
http://www.koreanwar2.org/kwp2/usmckorea/korea_navy_marine_air.pdf (accessed January 28, 2013).
- Department of Defense Instruction 4000.19 Interservice and Intergovernmental Support.* Washington D.C.: Department of Defense, 1995.
- 10 USC 5063 - United States Marine Corps: Composition and Functions.* U.S. Congress. Washington D.C.:
- 2013 U.S. Army Weapon Systems Handbook.* Washington D.C.: U.S. Army
- "About AFR." Air Force Reserve. <http://afreserve.com/?::About> AFR (accessed November 5, 2012).
- "AFRC History 1969-1989." U.S. Air Force Reserve Command.
<http://www.afrc.af.mil/library/history/1969-1989/index.asp>.
- "Air Force Reserve Structure." Air Force Reserve.
<http://afreserve.com/?::Structure#Organization> (accessed November 4, 2012).
- "Naval Reserve Aviation." Federation of American Scientist.
<http://www.fas.org/man/dod-101/navy/docs/vision/reserve.htm> (accessed August 15, 2012).
- AF/A8XF. "Total Force Enterprise (TFE) Management Briefing." Washington D.C.: U.S. Air Force. December 7, 2012.
- Whitepaper: Evolution of Total Force Policy (DRAFT).* Washington DC: Pentagon, 2012.
- Air Reserve Personnel Center. *2012 Guard and Reserve Personnel Facts Sheets.* Denver, CO: Air Reserve Personnel Center, 2012.
- Barclay, James O., Maj Gen. "Aviation Update: Army Aviation at a Glance." *Army* 59, no. 1 (Jan 2009, 2009): 29, 30, 32,
<http://search.proquest.com/docview/237080007?accountid=12686>. (accessed August 25, 2012)
- Binnendijk, Hans, Michael J. Baranick, Raymond E. Bell, Jr., Gina Cordero, Stephen M. Duncan, Christopher Holshek, and Larry Wentz,. "Transforming the Reserve Component." National Defense University. <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA435065> (accessed August 22, 2012).
- Brady, Morris, Major General. "Vanderpool's Fools and the Creation of the Attack Helicopter." *Army Aviation*, December 31, 2012. 70.

- Buck, J. *The New Guard and Reserve*. (San Ramon, CA: Falcon Books, 2008), p. 182-183
- Chapin, John C. *The 4th Marine Division in World War II*. Washington: History and Museums Division, U.S. Marine Corps, 1974.
- Conroy, Sean, Bruce Johnson, and Scott Kniep. "The Symbiotic Relationship between the Air Force's Active and Reserve Components." *Air and Space Power Journal* (January -February 2013, 2012).
- Department of the Navy. *Manual for Navy Total Force Manpower Policies and Procedures, Chief of Naval Operations Instruction*. Washington D.C.: Department of the Navy, 1998.
- Deputy Under Secretary of Defense McGinn, G. *Department of Defense Instruction 1235.12*. Washington, D.C.: Department of Defense, 2012.
- Donley, Michael B., Secretary of the Air Force. *Rebalancing the Total Force: Leveraging Reserve Strengths for Changing Global Realities*. Speech to Air Force Reserve Command Senior Leader Conference, 2011.
- House of Representatives, Committee on Armed Services. *Fiscal Year 2013 Air Force Posture Statement*. 112th Congress, 2nd session, 2012.
- Edmunds, Robert, Commander. "Transforming the Naval Reserve: How to Stay Relevant and Affordable in the Post-Cold War Environment." U.S. Army War College, 2003.
- Fagan, Vince Col. *Total Force Integration Brief*. Washington D.C.: U.S. Air Force A8F, 2009.
- Feickert, Andrew. *Army Drawdown and Restructuring: Background and Issues for Congress*. 2012. Washington D.C.: Congressional Research Service.
- Government Accounting Office. *GAO Report to Congress, FORCE STRUCTURE; Department of the Navy's Tactical Aviation Integration Plan is Reasonable, but some Factors could Affect Implementation*. Washington, DC: GAO, 2004.
- Gross, Charles Joseph and United States. National Guard Bureau. *The Air National Guard and the American Military Tradition : Militiaman, Volunteer, and Professional*. Washington, DC: National Guard Bureau. 1995.
- Grossnick, Roy A., William J. Armstrong, and Naval Historical Center (U.S.). *United States Naval Aviation, 1910-1995*. Washington, D.C.: Naval Historical Center, Dept. of the Navy : For sale by the U.S. G.P.O., Supt. of Docs., 1997.

- Hansen, M., Celeste Gventer, John Winkler, Kristi Kamarck. *Reshaping the Army's Active and Reserve Components*. Arlington, Virginia: Rand Corporation, 2011.
- Herd, Jeffery. "The Fully Integrated Wing (AC/ANG)—Does the Air Force have it Right?" U.S. Army War College, 2006.
- HQ USAF A3O-AI. *Air Force Policy Directive 11-2 Flying Operations*. Washington D.C.: U.S. Air Force, 2012.
- HQ USAF/A8PE. *Air Force Policy Directive 10-9 Lead Command Designation and Responsibilities for Weapon System*. Washington D.C.: U.S. Air Force, 2007.
- HQ USAF/A8X. Total Force Enterprise Commander's Professional Development School. Washington D.C., August 2012.
- HQ USAF/ILGC. *Air Force Instruction 25-201 Support Agreement Procedures*. Washington D.C.: U.S. Air Force, 2008.
- Kaufman, Roxanne M. and Laurie Schmidt. *100 Years of Marine Corps Aviation: An Illustrated History*. Washington, D.C.: U.S. Government Printing Office, 2011.
- Keeports, Tim, Maj., John Pernot, Lt. Col., and Mort Rolleston. *The U.S. Air Force Transformation Flight Plan 2004*. Washington, D.C.: U.S. Air Force, 2004.
- Kennedy, Betty, Dr. Donald Boyd, Keith Barr, and Stephen Ove. *Turning Point 9/11: Air Force Reserve in the 21st, 2001-2011*. Robins AFB, GA: U.S. Air Force Reserve Command, 2012.
- Knable, Joe. "New Reserve Unit Stands Up at Base as Air Force Retires Active-Duty C-130E Fleet." Air Mobility Command. <http://www.amc.af.mil/news/story.asp?id=123240016> (accessed February 1, 2013).
- Lockwood, Tim, 1Lt. U.S. Air Force. "Active-duty unit marks first year under Guard wing" <http://www.af.mil/news/story.asp?storyID=123060095> (accessed January 15, 2013).
- Lyons, H. Dwight, Jr. and John D. Goetke. *USMC Active and Reserve Force Structure and Mix Study; Volume II: History and Policy*. Alexandria, Virginia: Center for Naval Analyses, 1992.
- Marin, Robert G. "The Reserve Personnel; Navy Man-Year Rate Activity-Based Costing Model." Master's Thesis, Naval Postgraduate School, 1995.

- Miles, Donna. "Air Force Introduces Future Total Force Concept" <http://www.defense.gov/news/newsarticle.aspx?id=24693> (accessed October 4, 2012).
- "National Guard Job List". Army National Guard. http://jobs.nationalguard.com/ngb/search_results_jobs/?action=search&listing_typepercent5Bequalpercent5D=Job&keywordspercent5Blikepercent5D=aviation&JobCategorypercent5Bmulti_likepercent5Dpercent5Bpercent5D=&Citypercent5Blikepercent5D=&Statepercent5Bmulti_likepercent5Dpercent5Bpercent5D= (accessed January 21, 2013).
- Office of the Vice Chairman of Joint Chiefs of Staff and Office of Assistant Secretary of Defense, Reserve Affairs. *Comprehensive Review of the Future Role of the Reserve Component*. Washington, DC: Department of Defense, April 5, 2011.
- Program Assessment and Evaluation Division, Program and Resource Department. *U.S. Marine Corps Concepts and Programs 2011*. Washington, DC: U.S. Marine Corps, 2011.
- Pullen, Randy and Jean McGinnis. "Army Reserve Aviation." *The Officer* 77, no. 9 (Oct 2001): 20-2, <http://search.proquest.com/docview/214096952?accountid=12686>.
- Purpura, Paul. "4th Marine Aircraft Wing Sees Change of Leadership in Algiers." *The Times-Picayune*, August 6, 2012.
- Randy Pullen and Jean McGinnis. "Army Reserve Aviation." *The Officer* 77, no. 9 (Oct 2001): 20-2, <http://search.proquest.com/docview/214096952?accountid=12686>.
- Rye, Scott LCDR. *Naval Air Force Reserve Provides Support to the Fleet*. NRA News, April 2004. http://www.ausn.org/Portals/0/Services_pdfs/Naval_Air_Force_Reserve-APR04.pdf (accessed September 19, 2012)
- Santos, Joe Lt Col. "Air Mobility Command's Total Force Integration: A Critical Analysis." U.S. Army War College, 2012.
- Sherrard, James E., III. "Reserve Essential Part of Military Strategy and Capability." *The Officer* 76, no. 1 (Jan/Feb 2000, 2000): 52-6, <http://search.proquest.com/docview/214101527?accountid=12686>.
- Sjostedt, Travis, Major. "Active Associate Units: Benefits and Drawbacks." Master's Thesis, Air Force Institute of Technology, 2010.
- Statement of Major General Darrell L. Moore, United States Marine Corps before the Senate Appropriations Committee, Subcommittee of Defense - Guard and Reserves*. 112th Cong, 2nd Ses, 2011.

- Stenner, Charles, Lt. Gen. *Chief, Air Force Reserve Testimony before Senate Appropriations Committee, Subcommittee on Defense*. May 11, 2011.
- Stewart, J., Maj Gen. *Eliminating Major Gaps in DoD Data on the Fully-Burdened and Life-Cycle Cost of the Military Personnel*. Washington, DC: Reserve Forces Policy Board, 2012.
- Thode, Michael Lt Col. "Command Clairvoyance: Strategically Transforming AFRC through Total Force and Leadership." U.S. Army War College, 2012.
- Tirpak, John, A. "Integrated Total Force." *Air Force Magazine*, March, 2008.
- Totushek, John B. "Ready when Called." *The Officer* 77, no. 1 (Jan/Feb 2001): 34-7, <http://search.proquest.com/docview/214097702?accountid=12686>.
- Trudell, Bradley Sgt Maj. "Total Force Structure Transformation." *Marine Corps Gazette*. <http://www.mca-marines.org/gazette/article/total-force-structure-transformation> (accessed October 15, 2012).
- U.S. Air Force. "AF Portal, AFRC Sub-Organizations." <https://www.my.af.mil/gcss-af/USAF/ep/index.do?command=subOrg&channelPageId=s6925EC13560D0FB5E044080020E329A9> (accessed December 12, 2012).
- U.S. Army. *Army Force Management School Course Reference Material, Book 3*. Washington D.C.: 2008.
- U.S. Army Reserve. "U.S. Army Reserve Organization." August 15, 2012. <http://www.usar.army.mil/ourstory/Pages/Organization.aspx> (accessed August 15, 2012).
- U.S. Marine Corps. *U.S. Marine Corps Concepts and Programs 2011*. Washington D.C.: Marine Corps, 2011.
- U.S. Marine Corps History Division. "Highlights of the Marine Corps Reserve: 1916 - 2006." U.S. Marine Corps. https://www.mcu.usmc.mil/historydivision/Pages/Frequently_Requested/Highlights.aspx (accessed February 7, 2013).
- Valentine, Mark and Sean Frederick Conroy. "Achieving a Cost-Effective Balance in the Department of Defense: Concurrent and Proportional Recapitalization of the Air National Guard." *Air & Space Power Journal* 24, no. 1 (Spring 2010, 2010): 48-60, <http://search.proquest.com/docview/374893982?accountid=12686>.
- Winkler, John D., Barbara A. Bicksler, Thomas F. Hall , and William A. Navas . *The New Guard and Reserve*. San Ramon, CA: Falcon Books, 2008.