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Evolution of the Military's Current Active-Reserve Force Mix

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Executive Summary

This document traces the evolution of the Active Component-Reserve Component (AC-RC) mixes of the U.S. Military Services (hereafter Services) in recent decades and describes the current and programmed mix of AC and RC units and personnel in each Service. This historical and numerical compilation provides information, promotes an understanding of how and why the current AC-RC mixes exist, and facilitates the consideration of future changes in the mix during a period of austerity. The expectation was that this research would reveal fundamental principles governing the policies and procedures that determine the mix of AC-RC units and personnel in the Services. Instead, the research reveals a complex mix of AC and RC elements in each Service and the distinctly different ways each Service manages these elements. It also reveals some specific findings about each Service that provide situational context for those involved in the difficult programming and budget decisions that lie ahead.

Even though data were difficult to find, and few principles emerged, three general observations apply across the Services: uniqueness, management, and culture.

- **Uniqueness.** Each Military Service has an AC and a federal RC. In addition, the Army and Air Force have a National Guard component. The six DOD RCs are the Army National Guard (ARNG), U.S. Army Reserve (USAR), U.S. Navy Reserve (USNR), U.S. Marine Corps Reserve (USMCR), Air National Guard (ANG), and U.S. Air Force Reserve (USAFR). The National Guard components have a dual mission as Federal Reserves and as State military forces that report to their Services and to their Governors. The National Guard can be called into service by the President to accomplish Federal missions or by the State governors to accomplish State missions. The relationship between the AC of each Service and its RC(s) is unique. These relationships are determined by the operational domains, roles, and missions of the parent Service and by the way its RC(s) developed historically.

  The ways that the Services relate to their RC are different. The Army relies on its RCs for combat and support units. The Air Force, derived from the Army, relies on its RC as a ready force with aviators and flight crews. The USNR and USMCR are relatively small and provide a smaller portion of the total military strength of their parent Services. The nature of each RC is determined more by its relationship with its parent Service than by its relationship with the other RCs. Many laws and Department of Defense (DOD) policies and regulations apply to all of the RCs and provide an overall organizational framework and standards for compensation, benefits, training, administration, and

some operational matters. However, the application of the common policies and procedures is different for each RC and conforms to the essence of each Service.

- **Management.** The research indicates that three of the Services (Army, Navy, and Air Force) would likely achieve better Total Force Integration (TFI) if they were to conduct a comprehensive analysis of the way in which they organize and manage their RCs. The Army develops and manages its AC, USAR, and ARNG units in an integrated manner but tends to treat them separately for fiscal and personnel management. The Navy essentially has two separate management systems—one for the AC and another for the RC. The Air Force is integrated at the working level but has three separate management systems for its three components at higher levels. Most successful in achieving TFI is the Marine Corps which addresses its AC and RC as a coherent whole from the top down.

  One manifestation of fragmented management is that it has been difficult to obtain current or historical data from the Services that allow presenting AC and RC data in the same format. The Marine Corps was able to provide this kind of integrated data. The Army provided integrated data for its Operating Force and after some inquiries did display the functions that the USAR and ARNG elements of the Generating Force were performing. The Navy was able to provide AC and RC data, broken out by sea and shore for each enterprise area/resource sponsor, but was unable to present data that addressed Active Navy and Navy Reserve billets delineated specifically for operational and support functions. The Air Force showed a similar inability to provide data that arrayed its three components in the same format. The Institute for Defense Analyses (IDA) research team was unable to discover authoritative personnel and manpower data allocating civilian and military strength among mutually exclusive and exhaustive management categories.

- **Culture.** Culture is one of the most important factors shaping the AC-RC mix of each Service and the way that the ACs and RCs relate to one another. Despite operations since 2001 in which units and personnel of all components worked well together during wartime, the IDA research team found that leaders at all levels in the AC and the RC often fail to understand and appreciate fully the role played by and the potential contributions of their component counterparts. A certain AC-RC tension exists in all of the Services. To some degree, it reflects the holdover of a belief on the part of full-time professionals that part-time help simply cannot be as good as they are because part-timers do not train as much. In the Army, this attitude has diminished considerably, but tensions still surface among the Active Army, ARNG, and USAR. Recently, in the Marine Corps, this attitude has largely disappeared. In the Navy, there is less evidence of this attitude but simply a situation in which the AC and RC work effectively side-by-side without fully being integrated and with little overall interaction. In the Air Force, there

is a sense of competition among the Regular Air Force (RegAF), Air Force Reserve (AFR), and Air National Guard (ANG) that goes beyond the budget battles.

It is also important to recognize that the nature of working relations between the AC and RC vary over time. When the RCs are obviously needed, as was the case in the recent campaigns in Iraq and Afghanistan, cooperation among the components tends to increase. In periods of relative peace and when budgets decline, the various components tend to become competitors for scarce resources in the same manner that the Services are competitors for resources. From Service and Component perspectives, the competition for dollars and force structure tend to trump a cooperative dialogue on larger strategic concerns.

The Services

U.S. Army (USA)

The Army relies more on its two RCs than the other Services. About half of the Army's military personnel are in the USAR and ARNG. Most post-World War Two (WW II) changes in DOD policies and programs of the AC-RC mix were aimed at the Army. As the Cold War developed, the number of reserve units was reduced, and the readiness of the remaining units was improved. This change was made successively so that by 1989—at the end of the Cold War—the USAR and ARNG could respond to a full mobilization with units capable of reinforcing the AC in Europe and/or providing a basis for forming new units. ARNG combat divisions were planned to deploy in weeks to provide a distinct second echelon of combat power. Since the end of the Cold War, the reductions in personnel strength and budget allocations imposed in the Army were distributed evenly among the three components. During this period, the Army has changed the mix of AC and RC units to rely less on ARNG combat brigades and more on USAR and ARNG support units. This change in the mix was tested for Operation Desert Storm in 1990 and 1991, when large numbers of RC support units were mobilized and deployed rapidly in support of the campaign. Subsequently, USAR and ARNG units were used more frequently than before on a number of small operations. For Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF, Afghanistan), numerous RC units were activated and deployed on a rotational basis. This development led to the introduction of the term *Operational Reserve* to describe routine repetitive use of RC units in conjunction with similar use of AC units. As the demand for periodic mobilization and rotational deployment of AC and RC units slows, the Army is shifting back to its pre-11 September 2001 posture of using AC units wherever possible and relying upon RC units to serve primarily as a *Strategic Reserve*, to be used only for a major combat operation.

U.S. Navy (USN)

The Navy Reserve has evolved over time from a semi-autonomous strategic reserve in terms of platforms and trained individuals to what is today a strategic and operational reserve that is a

mix of individuals and unit types that either complement or mirror elements of the AC. In the former case, the RC provides "skills and expertise to complete the Total Force inventory of capabilities"[1] and in the latter case, the RC provides "skills and expertise that match the AC to offer greater capacity at lower carrying cost."[2] This evolution can be traced back to the aftermath of WW II, when the Navy had a large number of ships and aircraft and trained the Navy Reserve to staff them in anticipation of a need for a large force to wage war with the Warsaw Pact. By the end of the Cold War, this scenario had become obsolete. In the case of ships, as the size of the fleet declined, the Navy moved to a policy of fully manning all its ships so that these ships would not require RC augmentation in the event of war. In addition, the problems of maintaining ships in standby status with part-time personnel and the impracticality of rotating part-time personnel to deployed units made employing reservists, other than full-time support (FTS) personnel, to operate ships unworkable, and the Navy Reserve Fleet (NRF) disappeared. On the other hand, while the Navy Reserve Air Force owns far fewer planes than it once did, it adds capability and capacity to the Total Force. It now comprises 100 percent of the Navy's intra-theater fleet logistics support, provides two adversary squadrons for training, conducts 20 percent of the training sorties in the Navy's aviation training pipeline, and provides direct operational support in RC and blended helicopter squadrons. Navy Reserve Expeditionary Combat Units that mirror their AC counterparts, providing greater capacity to the Navy, include, among other types of units, Mobile Construction Battalions (SEABEEs), Cargo Handling Battalions, and Coastal Riverine Force Squadrons. While one can point to the role played by specific Navy Reserve units, a significant proportion of Reserves mobilized in recent years have been mobilized on an individual basis to augment gaining commands. Thus, although Navy Reserve strength has been reduced in recent years, as has AC strength, the Reserve units and individuals have continued to make major contributions to Navy missions. However, the question that remains is whether the Navy is leveraging its Reserve assets to provide the most effective and cost-efficient support to the Total Force. For example, there does not appear to be a correlation between the use of the 10,500 full-time support personnel and the 54,000 Selected Reservists. Only about 3,200 of the FTS personnel are used to administer the Navy Reserve and the rest are used as additional full-time personnel to augment active Navy units. No one has asserted that the current distribution of Navy Reserve personnel, which is the result of requests by Navy Resource Sponsors, is improper or inefficient. On the other hand, the Navy Reserve leadership has made a case that better use could be achieved if the Navy leadership issued a *Total Navy Strategy* for integrating the Navy Reserve with the Active Navy. Despite past directives and policy statements from the Navy leadership that assigned responsibilities for developing Total Force policy, creation of such a strategy does not currently appear to be a priority within the Navy.

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[1] Office of the Chief of Naval Operations, "Navy Composite Warfighting Force," briefing by VADM Bruce Clingan, Deputy Chief of Naval Operations (N3/N5), and VADM Dirk Debbink, Chief of Navy Reserve (N095), 30 September 2010.

[2] Ibid.

U.S. Marine Corps (USMC)

The Marine Corps has a well-integrated total force. The current Marine Corps AC-RC mix was created in 1962 when Secretary of Defense Robert S. McNamara ordered the Marine Corps to structure the Marine Corps Reserve (MCR) into a fourth division-wing team that would be organized like the three AC division-wing teams. Since then, some changes have occurred in the types of units, particularly in aviation, but the overall structure remains the same. The Commandant of the Marine Corps addresses the MCR as an integral part of the Marine Corps. Active duty Marine Corps officers and non-commissioned officers (NCOs) are assigned to MCR units as inspectors and instructors (I-I). As inspectors, they ensure that unit administration, training, supply, and maintenance functions are carried out in accordance with Marine Corps policies. As instructors, they assist in planning and coordinating collective training. MCR units are maintained at a high state of readiness comparable to AC units. The Marine Corps actively manages its Individual Ready Reserve (IRR) and Retired Personnel and relies on them to provide trained personnel when needed. Marine personnel and/or units augment and/or reinforce and sustain the AC units. Augmentation means that MCR units are mobilized and then decomposed to provide individual fillers or small elements to bring AC units up to wartime strength. Reinforcement means that MCR companies and battalions are mobilized and employed intact as part of AC organizations. Sustain means that the personnel and/or units will be there for the duration of the deployment. What has changed over the years is the manner in which the Marine Corps has used the Selected Marine Corps Reserve (SMCR) and the IRR in combat operations. In Operation Desert Storm (1991), the MCR was employed almost entirely as *companies*. In Operation Iraqi Freedom (2003), many Reserve *battalions* were also employed as such. The MCR is neither operational, nor strategic but, instead, is an integral component of the Marine Corps Total Force. The mission of the MCR is to augment, reinforce, and sustain the AC.

U.S. Air Force (USAF)

The Air Force is integrated effectively at the working level where missions are flown and work is performed. Units and personnel from the RegAF, AFR, and ANG routinely work together without regard for component. The Air Force has established aviation units that mingle Active and Reserve personnel in several different ways. This *associate* unit approach improves the use of aircraft and makes it easier to tap into RC personnel for operational missions. There are also some integrated, or *blended* units, with AC and RC personnel in the same unit with one operational command but separate administrative control (ADCON). Reserve units and personnel also participate effectively in other Air Force missions, such as missiles, security, civil engineering, intelligence, ground support, and base operations. While the Air Force has built an effective operational RC, budget drawbacks and the trend toward fewer aircraft has led to competition among components consistent with the historical trends noted above.

History vs. Analysis

Current AC-RC mixes are based more on historical developments than on analysis. The research suggests that objective evaluations of current AC-RC mixes could provide a basis for a modern Total Force Policy as the Office of the Secretary of Defense (OSD) considers how the Services, confronting reduced budgets, should adjust their force structures and personnel policies to face a future marked by uncertainty, complexity, and new types of threats.

Contents

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1. Introduction

This document describes the current and programmed mix of Active Component (AC) and Reserve Component (RC) units and personnel in the U.S. Military Services (hereafter Services) and traces its evolution from the end of the Cold War to the present time. Information on the current AC-RC mix provides a baseline from which to consider alternative AC-RC mixes when planning future force structures.

The research was done to support the establishment of an analytical framework for assessing the mix of active and reserve units in the Services. In this work, the Institute for Defense Analyses (IDA) research team acts as a system integrator of models, simulations, and programs that address aspects of this force development issue. The idea is to provide a rational way to achieve a more efficient mix of AC and RC forces that can provide the capabilities needed to accomplish the National Security Strategy.

A. Background

Each Military Service has an AC and a Federal RC. In addition, the Army and Air Force have a National Guard component.[1] The six RCs in the Department of Defense (DOD) are the Army National Guard (ARNG), U.S. Army Reserve (USAR), U.S. Navy Reserve (USNR), U.S. Marine Corps Reserve (USMCR), Air National Guard (ANG), and U.S. Air Force Reserve (USAFR).[2] This document addresses only the Selected Reserve (SELRES), which includes all RC units and Individual Mobilization Augmentees (IMAs) that augment AC units when needed. The Individual Ready Reserve (IRR), Standby Reserve, Retired Reserve., and AC retired military personnel provide trained fillers and replacements for AC and RC units, as necessary, to keep the units at authorized strengths.

The IDA team's research also recognizes that DOD civilian employees are part of the base-line force structure, and some of the data tables show AC-RC-CIV (civilian) mixes. While the request for this research specifies only the ACs and RCs, the presentation is incomplete if civilian employee data are not included. Even so, the mix of data is still incomplete because it does not include contractors. This lack of contractor inclusion is significant because one of the important developments in the past 22 years has been increased reliance on contractors to provide services

[1] Department of Defense, *Comprehensive Review of the Future Role of the Reserve Component,* vol. I, *Executive Summary and Main Report* (Washington, DC: Office of the Vice Chairman of the Joint Chiefs of Staff and Office of Assistant Secretary of Defense for Reserve Affairs, 5 April 2011), 19. https://www.hsdl.org/?view&did=685426.

[2] In addition, a Coast Guard Reserve augments the U.S. Coast Guard (an armed force but not a Military Service). It is part of the Department of Homeland Security (DHS). This document does not address the AC-RC mix for the Coast Guard.

that had been furnished by military personnel or civilian employees. Unfortunately, data that show the number of contractor personnel is lacking.

This document describes and comments on the content and trends in the AC-RC mix of units since 1989—the final year of the Cold War—to the present time and then up to the Fiscal Year (FY) 2017 Programmed Force Structure. However, the story starts somewhat earlier, in the 1960s, when the Flexible Response strategy was adopted and steps were taken to improve the readiness and utility of the RCs. These steps led to the adoption, in the 1970s, of the Total Force Policy that revolutionized the mix and relationships between the ACs and RCs of the Services.

B. Precursors to the Total Force Policy

The Total Force Policy that was adopted in the 1970s was the culmination of previous actions that affected the AC-RC mix of the Services and served as the starting point for the new paradigm. In the 1950s, the Services had already begun the process of changing the ways they used their RCs and the extent to which they relied on their RCs—but in different ways that suited their unique natures. During this era and during the Vietnam War, the readiness of the RCs was questioned, which prompted calls to either eliminate them or improve them.

1. U.S. Army (USA)

At the end of World War II (WW II), the Army downsized rapidly from 8.2 million military personnel in 1945 to 550,000 in 1948.[3] During this period, the USAR and the ARNG were reconstituted; however, severe readiness problems were encountered. When four ARNG divisions were called to active duty for the Korean War (1950), these divisions were in a poor state of readiness and required significant post-mobilization training before they could be employed.[4] In response to the Berlin Crisis (1961), four ARNG divisions, a USAR training division, and numerous other units were called to active duty and again revealed readiness shortfalls. In response to this poor performance in the Berlin Crisis, the Army and DOD proposed actions to improve the readiness of Army RC forces but failed to gain congressional support and approval. In 1963, Secretary of Defense Robert S. McNamara directed the Army to establish a Selected Reserve Force (SRF) with six divisions, six separate brigades, and many support units. The SRF was given priority for training funds and equipment and was expected to deploy in 8 weeks after mobilization.[5] In 1964, Secretary McNamara proposed that the USAR be merged with the ARNG. At that time, the ARNG units had divisions and support units manned at about two-thirds of

[3] James L. Lacy, "The Total Force: An American Debate in Historical Perspective," unpublished manuscript (Santa Monica, CA: RAND, August 1992), Chapter VIII, 13–14.

[4] Ibid., 35. Two divisions were deployed to Japan, received 8 months of training, and entered combat in Korea in December 1951 and January 1952, respectively. Two divisions were also deployed to Europe. In 1951, four more divisions were mobilized but remained in the Continental United States (CONUS).

[5] Ibid. The SRF in the Army was not related to the Selected Reserve that was created by Congress in 1967. The SELRES part of the Ready Reserve included all Reserve units of all of the Services.

wartime strength, with some equipment on hand. The USAR, on the other hand, had numerous divisions that consisted almost entirely of officers and had little or no equipment. Congress rejected the merger, but Secretary McNamara was able to reduce the number of USAR units and increase overall strength so that the remaining units could be staffed and equipped to achieve a better level of readiness. During the Vietnam War, the Army relied on volunteers and draftees to expand the Active Army. Consequently, many RC units became safe havens for young American men trying to avoid the draft and/or its lottery system, and most RC units were at full strength. Following the war, the strength and readiness of the AC and the RC were reduced. By the mid-1970s, most USAR and ARNG units were understrength, ill equipped, and unready to reinforce the North Atlantic Treaty Organization (NATO). After the adoption of the Total Force Policy and with greater funding, Army RC strength grew, and RC units began to be equipped and trained to provide a second echelon of combat power for the anticipated campaign in Europe.

2. U.S. Navy (USN)

The post-WW II role of the USNR was to provide crews for large numbers of ships and aircraft that remained in reserve after WW II and to augment operational ship crews to achieve wartime complements This role continued through the Vietnam War; however, since many ships and aircraft were decommissioned, the demand for these crews decreased, and new missions were found for the reservists. During the Vietnam War**,** the draft benefitted the Navy because significant numbers of youths volunteered to join the Navy rather than being drafted into the Army. After the draft ended, the Navy continued to attract volunteers and retained many of them in the USNR when they had completed their active duty tours. By the 1970s, the USNR had substantial numbers of personnel but declining numbers of ships and aircraft to operate.

3. U.S. Marine Corps (USMC)

The current role of the USMCR was defined in 1962 when Secretary of Defense McNamara told the Department of the Navy to structure the USMCR into a fourth division-wing team. Since then, only marginal changes have been made in the AC-RC mix within that framework. The end of the draft had little effect on the Marine Corps, which had continued to rely almost entirely on volunteers throughout the Cold War, Vietnam, and thereafter. The Marine Corps was relatively small, and its reputation as an elite force attracted enough volunteers to fill its units. The end result has been an integrated USMCR that has performed as intended in recent campaigns, which is not to say that the Total Force Policy had no effect, because it did lead to more equipment for USMCR units and the establishment of common standards for training.

4. U.S. Air Force (USAF)

Many aspects of the Total Force Policy had been in effect in the Air Force long before that policy was promulgated in 1973. The Air Force had emerged from WW II with a large number of aircraft that were still in serviceable condition and a relatively large number of reservists who

wanted to fly and maintain these aircraft on a part-time basis. However, in the 1950s, the Regular Air Force (RegAF) did not have to depend on the Air Reserve Components (ARCs). Subsequently, as the number of operational aircraft diminished, the RegAF found that it needed operational support from ARC air crews and aircraft. In terms of personnel, the end of the draft had little effect on the Air Force, which had relied almost entirely on volunteers during the Vietnam era. By the 1970s, the Air Force had created an effective model of AC-RC integration.

C. Total Force Policy

The years from 1965 to 1975 marked a decade of events that set the stage for the current mix of roles and units among the ACs and RCs of the Services. In retrospect, it is clear that four major seemingly unrelated events led the Services to change the ways they use their RCs.

1. Vietnam War

Starting in 1965, the buildup of U.S. forces in Vietnam increased dramatically. Almost all of these forces were from the ACs. The Marine Corps, Navy, and Air Force depended almost entirely on volunteers, while the Army relied heavily on draftees. Contrary to the advice of the Joint Chiefs of Staff (JCS), President Lyndon B. Johnson declined to mobilize a substantial number of RC units to support the buildup. The Services, particularly the Army and Marine Corps, had to activate new AC units—primarily as support units for the Army. In 1968, in response to Congressional pressure, a few RC units were mobilized. These units were, for the most part, not ready to deploy rapidly, but some did, in fact, deploy to Vietnam after extensive post-mobilization training. The RC community expressed regret that a large number of RC units were not called up as was done for the Korean War, but doing so would have been challenging for a multi-year campaign that was sustained by an individual personnel replacement system.

One result of the failure to call up large numbers of Army RC units for the Vietnam War was the so-called Abrams Doctrine. Army Chief of Staff General Creighton W. Abrams is supposed to have deliberately placed a large number of Army support units for AC divisions in the RC so that the United States would not be able to wage a future war without calling up a large number of RC units, thus making broad public support necessary for entering such a war. No documents are available to support the official existence of the Abrams Doctrine.[6] Some observers also disagree as to whether actions taken in the name of that doctrine achieved the intended purpose of ensuring public support for U.S. involvement overseas. The Army did, in fact, place many support units in

[6] The case for the existence of the Abrams Doctrine is made in an article by Lewis Sorley, "Creighton Abrams and Active-Reserve Integration in Wartime" *Parameters* (Summer 1991): 35–50, http://strategicstudiesinstitute.army.mil/pubs/parameters/Articles/1991/1991%20sorley.pdf. A skeptical view is provided by James Jay Carafano, "The Army Reserves and the Abrams Doctrine: Unfulfilled Promise, Uncertain Future," Heritage Lectures No. 869 (Washington, DC: The Heritage Foundation, 18 April 2005), 1–12, http://www.heritage.org/research/lecture/the-army-reserves-and-the-abrams-doctrine-unfulfilled-promise-uncertain-future.

the RC, and the United States did call up many RC units to conduct Operation Desert Storm (1990–1991), Operation Enduring Freedom (OEF) (2001–2012), Operation Iraqi Freedom (OIF) (2003–2011), and numerous other less well-known operations. However, the degree of public support differed with the individual operations and over time. Importantly, though, by establishing the Army's reliance on substantial support from the National Guard and Reserve units, actions taken in the name of the so-called Abrams Doctrine had an impact on the nature of the Army's AC-RC mix.[7]

2. All-Volunteer Force (AVF)

In 1973, reliance on conscription ended and was replaced by the AVF.[8] This new approach had some effect on the AC-RC mix. Large numbers of personnel who had joined the RCs to avoid being drafted and sent to Vietnam left the ARNG and USAR, reducing their strengths substantially. Retention in the ARNG and USAR was affected further by the fact that many AVF-related policies and incentives introduced in 1973 for the ACs were not used for the RCs until about 1978. While the AVF had little effect on the ability of the USNR, USMCR, USAFR, and ANG to retain the personnel necessary to maintain required force levels, by 1978, the end of conscription and the decisions initially not to apply AVF polices and incentives to the RCs resulted in the Army's RCs being seriously understrength.[9]

3. Evolution of the Total Force Policy

In 1970, Secretary of Defense Melvin B. Laird issued a memorandum that required the Services to provide improved support for their RC as part of a Total Force Concept. This policy transformed the analytical practice of total force planning into a programmatic reality. The key point of the Laird Memorandum was that "Guard and Reserve units and individuals of the Selected Reserve will be prepared to be the initial and primary source for augmentation of the active forces in any future emergency requiring a rapid and substantial expansion of the active forces."[10] The memorandum went on to instruct the Services to "increase the readiness, reliability and timely responsiveness" of the Guard and Reserve and ordered some specific actions to be taken to that end.[11]

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[7] Carafano, "The Army Reserves and the Abrams Doctrine," 3, 7.

[8] Bernard Rostker, *I Want You: The Evolution of the All-Volunteer Force,* MG265 (Santa Monica, CA: RAND Corporation, 2006), http://www.rand.org/content/dam/rand/pubs/monographs/2007/RAND_MG265.pdf.

[9] John R. Brinkerhoff, Office of the Deputy Assistant Secretary of Defense for Reserve Affairs, "Comprehensive Program for Guard and Reserve Readiness in FY1980 (GRR-80)," briefing, 1979.

[10] Melvin R. Laird, "Support for Guard and Reserve Forces," Memorandum (Washington, DC: OSD, 21 August 1970).

[11] Ibid.

Three years later, in 1973, Secretary of Defense James R. Schlesinger formally proclaimed the Total Force Policy that was to govern all future program and budget decisions. In his memorandum, "the Guard and Reserve forces will be used as the initial and primary augmentation of the Active forces" and the Total Force Policy "integrates the Active, Guard and Reserve force into a homogenous whole."[12]

4. Preparing for a Major Conventional War in Europe

In 1975, after the withdrawal from Southeast Asia, DOD's attention turned to the threat of a Soviet conventional attack in Western Europe. This possibility had been deemphasized during the Vietnam War when Army units in Germany were often underresourced with regard to personnel and equipment and AC units in CONUS were converted into training centers to provide units and replacements for Vietnam. During this change in focus, it became clear that the Army's AC forces in Europe and those available in CONUS to reinforce Europe were too few to stop a massive Soviet attack. Steps were taken to provide additional units to defend Western Europe, and the only source of these units was the RC, which would have to be made ready to deploy quickly. Trained Soldiers would be needed to provide fillers to bring the AC and RC units up to strength and replace combat losses. The IRR and retired military personnel would provide most of these fillers and replacements for the 6 months that it would take to establish a draft and produce large numbers of newly trained recruits.

As the Services addressed how to cope with the Soviet threat in Europe, DOD officials, Congress, and some Service leaders renewed their efforts to develop truly ready Army RCs that would offset lower active duty strengths and increase the forces that could be available to deploy in the event of a short-notice conventional attack by the Soviets. This approach meant that the time between mobilization and deployment for the RC could no longer be measured in months, as had been the case for previous wars, but was shortened to weeks or even days. RC units would have to be ready to deploy faster than they had been able to do in earlier wars. This imperative brought about the Total Force Policy, but the earlier steps had paved the way for its adoption.

The Army was the largest Service and would bear the brunt of a conventional war in Europe. Given the realities and limitations of the AVF and the Defense budget, it was not possible to expand the Active Army to meet the entire need, and a large number of RC combat and support units would be needed in the event of war with the Soviet Union and its allies. The end of the draft and the advent of the Total Force Policy had less effect on the other Services, but they were beneficiaries of the funding and readiness improvements that were introduced.

To summarize the RC evolution in this period, the imperatives of the Cold War hastened the acceptance of the RCs as essential partners with their parent Services. However, initially, the RCs were provided limited resources to generate readiness and therefore would potentially not be

[12] James R. Schlesinger, "Readiness of the Selected Reserve," Memorandum (Washington, DC: OSD, 23 August 1973).

available until some considerable time after an M-Day[13] when larger numbers of personnel and greater funding would make possible filling and training the units. The Total Force Policy was promulgated, in part, to counter that situation. After the adoption of this policy, each Service made efforts to improve the readiness of its RC units, to include these units in war plans, and to integrate them into the Cold War effort.

[13] An M-Day is day assumed by the DOD as the first day of mobilization, used by the military for planning purposes.

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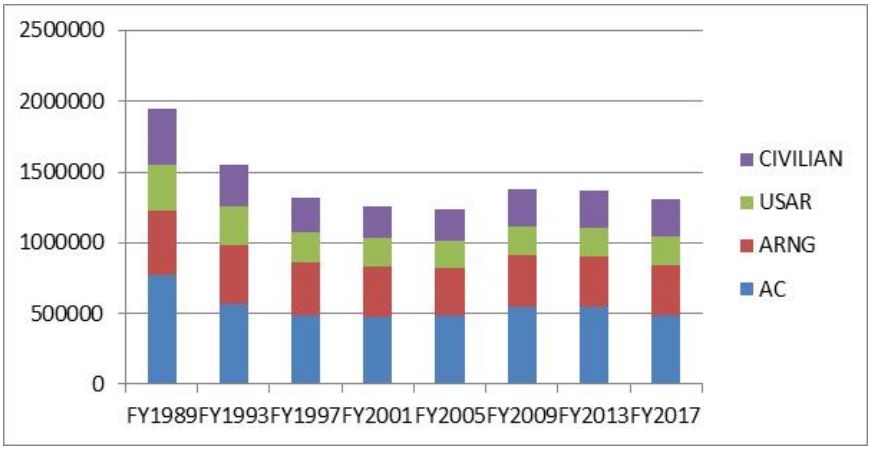
2. The AC-RC Mix in the U.S. Army

This chapter summarizes the mix of AC-RC units in the U.S. Army over the last two decades. It describes the initiatives that have led to changes in the Army's force structure and presents an in-depth review of the composition of the Army by component and functional area. The chapter concludes with observations about the allocation of the Army's combined arms organization, the process for managing the AC-RC mix, and constraints that may prevent future changes to the AC-RC mix in the Army's force structure.

A. Introduction

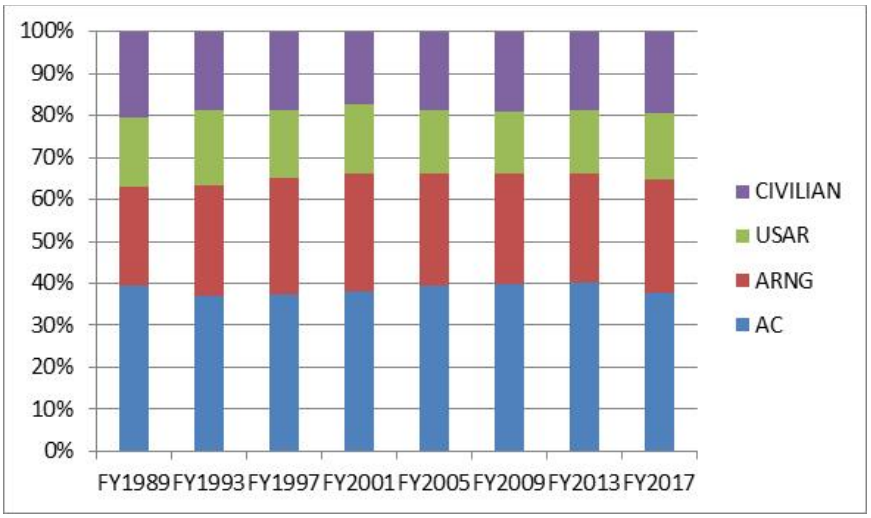
During the past 23 years, since the end of the Cold War, the Army's force structure and the mix of AC and RC units have been adjusted continuously to meet current requirements. The AC-ARNG-USAR mix for the Army is shown in the next two figures. Figure 1 (shows the absolute numbers), and Figure 2 (shows the proportions) display the AC-RC-CIV mix of personnel for the Army from FY1989 to FY2017.



Source: Appendix A of this document.

Figure 1. Number of Army Personnel by Component

Figure 1 and Figure 2 show two things. First, there was a large reduction in personnel strengths after 1989 as the United States sought to find a "Peace Dividend" after the demise of the Soviet threat. Major reductions were made from 1989 through 1993, and minor reductions



Source: Appendix A of this document.

Figure 2. Proportion of Army Personnel by Component

were made from 1993 to 1997. Second, despite major fluctuations in personnel strengths, the proportion of AC military personnel in the Total Army workforce was fairly stable—in the range of 37 percent to 40 percent. This apparent stability, however, is misleading because substantial changes occurred in the AC-RC mix during this period as new administrations adopted new strategies, as the force structure was transformed, and, ultimately, as the Army was fighting two major campaigns whose nature and duration had not been anticipated.

B. The Army AC-RC Mix in 1989

In 1989, the USAR and the ARNG were an integral part of the Army's plan to wage a major conventional war with the Soviet Union in Western Europe. These forces were well manned, well equipped, and, within the limits of being a part-time force, well trained. This readiness was achieved only after over a decade of command emphasis and increased funding. It all started with a major effort to upgrade the Guard and Reserve in general and the Army RC in particular.

In 1975, when the Army refocused its attention from the Vietnam War to a major conventional war in Europe against a Soviet-led invasion by the Warsaw Pact nations, the ARNG and USAR were in poor condition. Strength was down as draft-motivated personnel departed, and the AVF initiatives established for the AC had not yet been applied to the RC. (The problem existed primarily with the Army RC because the other Services' RCs managed to meet their strength and readiness goals.) The authorized SELRES strength of the ARNG was 400,000 and of the USAR was 300,000, but, in 1978, the low point in strength, the ARNG had only 347,340 members and the USAR had only 185,753 members.[14] Congress and the Office of the Secretary of Defense

[14] Karl E. Cocke et al., "Reserve Forces," chap. 6 in the *Department of the Army Historical Summary Fiscal Year 1978* (Washington, DC: Center of Military History, United States Army), 89, http://www.history.army.mil/books/DAHSUM/1978/.

(OSD) seriously considered eliminating these units. At that point, a real effort was made to improve the readiness of the ARNG and USAR. AVF initiatives—particularly enlistment and reenlistment bonuses—were made available, and command emphasis was brought to bear on the problem. The effort paid off, and, by 1980, the ARNG and USAR were up to strength and better equipped than they had been previously. This Cold War force structure was refined and strengthened for its intended role over the next decade, which ended with the collapse of the Soviet Union. Strenuous efforts made during this period contributed to a credible deterrent to a Warsaw Pact invasion of Western Europe. The emphasis was on maintaining a capability to defend NATO nations without resorting to nuclear weapons. During this 14-year period that ended with the collapse of the Soviet Union in 1989, the Army achieved a high level of integration of AC and RC forces, relying on the ARNG and USAR to provide rapid augmentation of the Active Army for the worldwide struggle with the Soviet Union.

C. Major Force Mix Changes FY1989–FY2001

From FY1989 to FY2001, significant reductions in the Army's budget and manpower authorizations and the challenges of the post-Cold War world caused numerous changes in the strength of the Army and the mix of AC, RC, and Civilian personnel. Five major force structure actions affected the AC-RC-CIV Mix during this period: the Base Force, the Off-Site Agreement, the Bottom-Up Review (BUR), the National Guard Division Redesign, and the 1997 Quadrennial Defense Review (QDR). Several operations were also being conducted during the period, notably Operation Desert Storm in 1990–1991. The trend during this period was smaller budgets, fewer personnel, and changing strategies.[15]

1. 1990: Base Force

After the end of the Cold War, the George H. W. Bush administration took action to take advantage of the "Peace Dividend" that was anticipated. The goal was to adjust the defense strategy to the post-Cold War situation and adjust the DOD force structure to the new strategy. The resulting Base Force made a significant reduction of about 25 percent in the force structure, a 10 percent reduction in funding, and a 20 percent reduction in manpower.[16] In FY1989, the Army had 770,000 AC personnel and 28 tactical divisions (18 AC and 10 RC (ARNG)). At the end of

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[15] A major source that covers the period of interest is John Sloan Brown, "Kevlar Legions: The Transformation of the U.S. Army, 1989–2005" (Washington, DC: U.S. Army Center of Military History, 2011).

[16] Eric V. Larson, David T. Orletsky, and Kristin Leuschner, "The Base Force: From Global Containment to Regional Force Presence," chap. 2 in *Defense Planning in a Decade of Change: Lessons from the Base Force, Bottom-Up Review, and Quadrennial Defense Review,* MR-1387-AF (Santa Monica, CA: RAND Corporation, 2001), http://www.rand.org/content/dam/rand/pubs/monograph_reports/2007/MR1387.pdf. This report, in its entirety, provides a good review of the Base force, the BUR, and the 1997 QDR. For a thorough explanation of the rationale for the Base Force, see Lorna S. Jaffe, *The Development of the Base Force, 1989–1992* (Washington, DC: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, July 1993), http://www.dtic.mil/doctrine/doctrine/history/baseforc.pdf.

FY1991, AC strength had fallen to 725,445 personnel, or 6 percent less.[17] By 1993, the Army had reduced the force to 12 active and 8 ARNG divisions. Six of the eight ARNG divisions would be fully manned, and two of them cadre.[18] In total, from 1989 Cold War strengths, the military strength of the Army AC had been reduced by 197,000 personnel and RC strength had been reduced by 92,000 personnel. The number of civilian employees was also reduced.

2. 1990–1991: Operation Desert Storm

The post-Cold War drawdown was interrupted briefly by the Iraq invasion of Kuwait in August 1990. The Army deployed two corps, seven divisions, two armored cavalry regiments, and one separate brigade to the theater. After 39 days of preparatory air strikes, allied ground forces achieved a decisive victory after only 100 hours of ground combat. During this campaign, the Army mobilized and deployed large numbers of RC support units—the largest mobilization of RC units since WW II. However, it was a different matter with the ARNG combat units. The Army had previously envisioned deploying several ARNG roundout brigades with AC parent divisions but instead reorganized "on the fly" and deployed AC divisions with all AC subordinate brigades. Three roundout ARNG combat brigades were mobilized and conducted pre-deployment training, but these brigades did not deploy to the war.[19] The only ARNG combat units deployed to the theater were two field artillery brigade headquarters and six field artillery battalions. The failure to deploy the three roundout brigades led to the abandonment of the roundout concept and influenced future force structure decisions on the AC-RC mix.[20]

3. 1993: Off-Site Agreement

In response to the Base Force reductions, the Army convened the leadership of the ARNG and USAR as well as representatives of the reserve associations to negotiate an agreement on how these two RCs could accommodate the Base Force cuts without impairing their ability to accomplish Federal and State missions.[21] It was agreed that the ARNG would inactivate 145 units with 17,700 spaces and transfer 128 units with 11,062 spaces to the USAR. The USAR would

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[17] William Joe Webb et al. *Department of the Army Historical Summary Fiscal Years 1990 and 1991* (Washington, DC: Center of Military History, United States Army, 1997), http://www.history.army.mil/books/DAHSUM/1990-91/Index.htm.

[18] Ibid.

[19] Two of the roundout brigades were mobilized on 30 November 1990 and one on 7 December 1990. After 91 days of post-mobilization training, the 48th Infantry Brigade was certified for deployment on the day that combat operations ended. See John R. Brinkerhoff, "Guard and Reserve Combat Units in the Persian Gulf War," appendix D in John C. F. Tillson et al., *Reserve Component Roles, Mix, and Employment*, IDA Document D-1708 (Alexandria,VA: Institute for Defense Analyses, May 1995).

[20] A good summary of this operation is found in Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War: The United States Army in Operations Desert Shield and Desert Storm* (Washington, DC: U.S. Army Center of Military History, 1995).

[21] The meeting was held away from the Pentagon and for that reason the result is called the "Off-site Agreement."

inactivate 327 units with 25,323 spaces and transfer 44 units with 14,049 spaces to the ARNG.[22] As a result of this agreement, the USAR would focus entirely on providing support units for the Army's Operating Force and training and providing garrison units to augment the Generating Force. Two USAR Special Forces groups and some combat aviation units were transferred to the ARNG, and the three USAR combat brigades were inactivated. The agreement left the 100th Battalion of the 442nd Infantry Regiment as the sole maneuver battalion in the USAR.

4. 1993: BUR

The Clinton administration took office in January 1993, and, in March 1993, Secretary of Defense Les Aspin initiated a comprehensive review of the nation's defense strategy, force structure, modernization, infrastructure, and foundations. He stated that he "felt that a department-wide review needed to be conducted 'from the bottom up' because of the dramatic changes that have occurred in the world as a result of the end of the Cold War and the dissolution of the Soviet Union."[23] This review led to additional reductions in the Army below the Base Force levels. These reductions had significant effect on the Army's AC-RC force mix. During the Cold War, the Active Army had relied upon its two RCs in planning to defeat the Soviet Union. With the post-Cold War drawdown, the AC and RC became competitors for resources. The new Army strategy was predicated on short wars that would be concluded before RC divisions could be mobilized and trained. Thus, the eight ARNG divisions were not included in war plans and were not provided any support units that would enable them to conduct combat operations. Moreover, the BUR said that six of the divisions could be assigned to lesser missions and that two of them should be reduced to cadre status. The BUR and the Army decided that 15 separate ARNG brigades would be enhanced with enough resources and training to be ready in 90 days, in time to help out in the predicted quick wins. These were called Enhanced Separate Brigades (ESBs) to fit their status.[24] Thus, by FY1997, when all these changes had been made, the Army had 82 combat brigades, but only 55 of them were provided enough support units to function on the battlefield.

5. 1996: National Guard Division Redesign

Total Army Analysis 2003 (TAA003), completed in January 1996, indicated that support units were experiencing a shortfall of about 125,000 personnel. The 1995 Commission on Roles and Missions of the Armed Forces (CORM) recommended that lower priority units be eliminated

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[22] Stephen L. Y. Gammons and William M. Donnelley, "Reserve Forces," chap. 5 in *Department of the Army Historical Summary, Fiscal Year 1995*. Washington, DC: Center of Military History, United States Army, 2004. http://www.history.army.mil/books/DAHSUM/1995/CMH_Pub_101-26-1.pdf.

[23] Les Aspin, *Report of the Bottom-Up Review* (Washington, DC: Department of Defense, October 1993), iii, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA359953.

[24] Eric V. Larson, David T. Orletsky, and Kristin Leuschner, "The Bottom-Up Review: Redefining Post-Cold War Strategy and Forces," chap. 3 in *Defense Planning in a Decade of Change: Lessons from the Base Force, Bottom-Up Review, and Quadrennial Defense Review*, MR-1387-AF (Santa Monica, CA: RAND Corporation, 2001), http://www.rand.org/content/dam/rand/pubs/monograph_reports/2007/MR1387.pdf.

or reorganized to meet higher priority needs. Acting on these findings, the Army, with the support of The State Adjutants General (TAG), established a program by which 12 lower priority ARNG separate brigades and some other units would be converted into combat support (CS) and combat service support (CSS) units to fill the shortfall. The plan was for the program to be carried out in four phases starting in FY2001 and ending in FY2009. The first phase, which involved three divisional brigades, ended in FY2005 and was accomplished apart from the TAA process.[25]

6. 1997: QDR

This review revised the BUR strategy and made additional reductions in Army military strength: 15,000 for the AC, 37,000 for the ARNG, and 8,000 for the USAR. The Strategic Reserve role for the eight ARNG divisions was discarded, and other missions were suggested for them (e.g., providing support units as described earlier, providing rear area security in a combat theater, backfilling for AC elements engaged in contingency operations (such as the Balkans), assisting AC divisions and ESBs to mobilize and deploy, and performing State missions (such as responding to disasters or civil disturbances)). The reductions in the Army RC would be made by the inactivation and conversion of existing units.[26]

D. Force Mix Changes 2001–2009

The progression of AC-RC mix adjustments set into motion during the 1990s was interrupted by the terrorist attacks on 9/11 and the subsequent military operations undertaken by DOD. OEF in Afghanistan and the initial phase of OIF did not stress the Army, but the support needed to sustain counterinsurgency campaigns in these combat zones and elsewhere for 10 years did. Major events that affected the AC-RC mix were the Total Army Analysis 2009 (TAA009), the Modular Force, the Army Force Generation (ARFORGEN), the AC-RC Rebalance Initiative, and the Surge and Drawdown.

1. 2002: TAA 2009

This analysis was started in 2001 but was adjusted to take into account the impact of the terrorist attacks of 9/11, which changed the strategic outlook and the defense strategy. From an AC-RC mix viewpoint, this TAA was significant because for the first time, it provided units for missions other than those for the Cold War. In particular, ARNG brigades were to participate in two major theater wars (MTWs). Four of the ARNG divisions were to participate in Phase 4

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[25] LTC Bernard F. Veronce, Jr., "Army National Guard Division Redesign," MS466 (Ft. Lee, VA: U.S. Army Logistics Management College, July–August 1999), http://www.alu.army.mil/alog/issues/JulAug99/MS466.htm. Also, see John C. F. Tillson, John R. Brinkerhoff, and Robert Magruder, *Total Army Analysis 2009 (TAA09): A Critical Review*, IDA Document D-2809 (Alexandria, VA: Institute for Defense Analyses, May 2003), http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA418503.

[26] William S. Cohen, "Section V: Forces and Manpower," in *Report of the Quadrennial Defense Review* (Washington, DC: Department of Defense, May 1997), http://www.dod.mil/pubs/qdr/.

operations of the MTWs, and two of the ARNG divisions were to be a Strategic Reserve. RC forces were also designated for the Homeland Defense mission. Previous strategies had focused exclusively on having a capability to wage two major wars, and other operations were to be accomplished by forces included in those maintained for the two wars. In TAA009, for the first time, the Army strategy maintained forces for major combat operations and separate forces for Homeland Security, minor contingencies, deterrence, transformation, and a Strategic Reserve to mitigate risk. This approach made use of all of the ARNG separate brigades and eight ARNG divisions.[27]

2. 2003: Modular Force

In 2003, General Peter J. Schoomaker became Chief of Staff of the Army (CSA) and set a program for the future that included, among other things, an emphasis on Force Stabilization and Modularity.[28] The Modularity concept required the reorganization of the Operating Force of the Army. The initial action was to set aside the previous division-based structure and adopt the Brigade Combat Team (BCT) as the basic maneuver element for the Army in the field. Subsequently and over the next 3 years, all of the functional areas of the Operating Force were reorganized into modular units.[29] One important aspect of modularity is that AC and RC units of the same type are organized identically and authorized the same equipment and technology. While the distribution of equipment has been governed by availability, commonality was found to be essential when AC and RC units were employed side-by-side and sequentially without regard to their component.

3. 2003: ARFORGEN

In response to the 9/11 attacks, the Army deployed units to Afghanistan in October 2001. This deployment did not have a major effect on the force structure. However, the start of OIF in March 2003 had a major impact. Starting in 1995, Army RC units had been mobilized and deployed to participate in peacekeeping operations in the Balkans, so there was a body of experience that helped deal with the demands of OIF and OEF. The initial deployments to Iraq were mostly AC units and were sufficient to take Baghdad and occupy Iraq. However, the fighting persisted, and the Army found itself conducting a long-term counterinsurgency campaign. After the first year, when it became necessary to provide a second set of units to replace the initial force,

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[27] Tillson, Brinkerhoff, and Magruder, *Total Army Analysis 2009 (TAA09).*

[28] General Peter J. Schoomaker, "The Way Ahead: Our Army at War Relevant and Ready"(December 2003), cited in David R. Graham, et al., *Managing Within Constraints, Balancing U. S. Army Forces to Address a Full Spectrum of Possible Operational Needs*, IDA Paper P-4579 (Alexandria, VA: Institute for Defense Analyses, September 2010), 15, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA540359.

[29] The Modular Force has been the subject of numerous studies. An overview is provided in Graham, et al., *Managing Within Constraints, Balancing U. S. Army Forces to Address a Full Spectrum of Possible Operational Needs* (IDA Paper P-4579) and in John Sloan Brown, *Kevlar Legions: The Transformation of the U.S. Army, 1989–2005* (Washington, DC: U.S. Army Center of Military History, 2011), http://www.history.army.mil/html/books/070/70-118-1/CMH_70-118.pdf.

RC units were in great demand and became an integral part of the forces in Iraq and Afghanistan.[30] To manage this unanticipated rotational demand, the Army adopted a personnel policy to retain personnel in units to promote unit cohesion and predictability of deployment. The ARFORGEN cyclical readiness system was established to ensure that the requirements of the U.S. Central Command (CENTCOM) were met. As these campaigns continued, imbalances in the Army's support units became evident, and actions were taken to change the composition of the force structure and the AC-RC mix.

4. 2005: AC-RC Rebalance Initiative

In 2005, the Army initiated an "incremental, ongoing process … to hasten the transformation of a post-cold war Army into a force capable of addressing war fighting requirements in the new strategic environment."[31] The idea was to remedy some shortfalls experienced in operations, allow the AC to respond rapidly to a contingency in the first 15 to 30 days without mobilizing RC units, and "[maximize] [RC] readiness and rotational availability,"[32] while preserving Homeland Defense capabilities. As part of this process, the Army required all units to be authorized at 100 percent of required strength. This new policy required the programmed force structure to be maintained within funding and strength constraints; therefore, some RC units were inactivated, and some AC and RC units that were not in high demand for OIF and OEF (e.g., field artillery, air defense) were converted to units in high demand (e.g., Engineer, Military Police, Medical).[33] This process has continued to the present time.

5. 2009: Surge and Drawdown

From 2005 to 2009, the AC strength increased substantially to support a buildup in Iraq. A lesser increase was authorized for the ARNG, while the USAR was kept at its previous strength. The current effort is to reduce the AC from the 2009 high point to its pre-war strength while retaining the necessary capabilities for an uncertain future.

E. Composition of the Army by Component

The next two subsections—Operating Force and Generating Force—display the composition of the Army from FY1993 to FY2017 by component. The data that provide the basis for this section

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[30] John R. Brinkerhoff, Joseph Adams, and Robert Magruder, *National Guard and Reserve Participation in Selected Military Operations After 9/11*, IDA Paper P-4806 (Alexandria, VA: Institute for Defense Analyses, January 2012).

[31] Department of the Army, "Active Component/Reserve Component (AC/RC) Rebalance," Information paper in *Army Posture Statement 2010* (Washington, DC: Headquarters, Department of the Army (HQDA), 2010), https://secureweb2.hqda.pentagon.mil/VDAS_ArmyPostureStatement/2010/index.asp.

[32] Ibid.

[33] Department of the Army, "Active Component/Reserve Component (AC/RC) Rebalance," citing actions starting with the pre-Modularity era in 2003–2005.

were provided by the Army G-3 Force Management Directorate.[34] The data are formatted in accordance with the way the Army manages its force structure. The data are presented for every 4 years starting in FY1993. Comparable data for FY1989 were not available. Operating Force data are presented by functional area for FY2013 and by groups of functional areas called functional categories for the entire period. Civilian personnel data were not provided for the Operating Force. Generating Force data are presented by major commands and other elements. Civilian personnel data were not available for the Generating Force or the Table of Distribution and Allowances (TDA) part of the Operating Force. The available data provide valuable insights into the way that the Army organizes and uses it RCs.

1. Operating Force

Table 1 lists the functional areas used by the Army to manage units of the various branches or communities in the Operating Force.[35] The numbers are the code used by the Army to identify each functional area.

The composition of the Operating Force for FY2013 is shown in detail at the functional area level in the figures in this subsection.[36] The data are shown for combat units, aviation units, CS units, CSS units, special operations units, operational headquarters, and a few TDA units that are in the Operating Force. In 2010, the term Psychological Operations was changed to Military Information Support Operations (MISO).

[34] Military personnel data were provided by James C. Chou, Elizabeth A. Morgan, Gregory Wick, and Kerry J. Schindler. The data were made available by Colonel Michael X. Linick, Chief FMF, and Colonel Jill Z. Newman, Chief FMP, Army Staff G3/5/7, multiple meetings in June and July 2012.

[35] Colonel Michael Linick, G-3/5/7 Force Management, June 2012.

[36] Data provided by James Chou, Gregory Wick, and Kery Schindler, Army Staff G3/5/7.

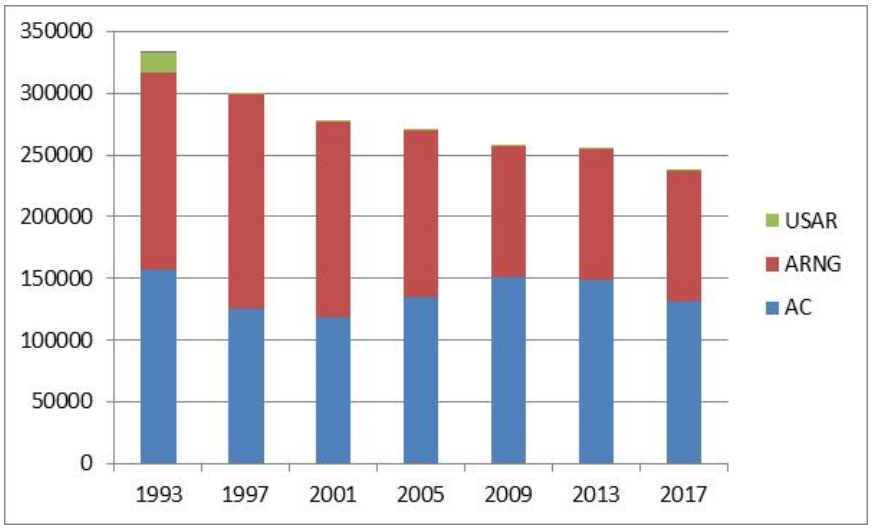
Table 1. Functional Areas of the Operating Force

	Combat
06	Field Artillery
07	Infantry
17	Armor/Cavalry
44	Air Defense Artillery
47	Infantry
77	Infantry Div/Brigade Hqs
87	Heavy Div/Brigade Hqs
	Aviation
01	Aviation
	CS
03	Chemical
05	Engineer
11	Signal
19	Military Police
30	Military Intelligence
34	Military Intelligence Communications
35	Interpreter/Translators
37	Maneuver Enhancement
40	Space
49	Battlefield Surveillance
53	Information Operations

	CSS
02	Bands
08	Medical
09	Missile Maintenance
10	Quartermaster
12	Adjutant General
14	Finance
15	Chaplain
20	Military History
27	Judge Advocate
42	Supply
43	Ordnance (Maintenance)
45	Public Information
55	Transportation
63	Logistics Headquarters
90	Acquisition
	Special Operations
31	Special Operations Forces (SOF)
33	Psychological Operations (PSYOP)
41	Civil Affairs (CA)
	Operational Headquarters
51	Army
52	Corps
	Operating Force TDA Units

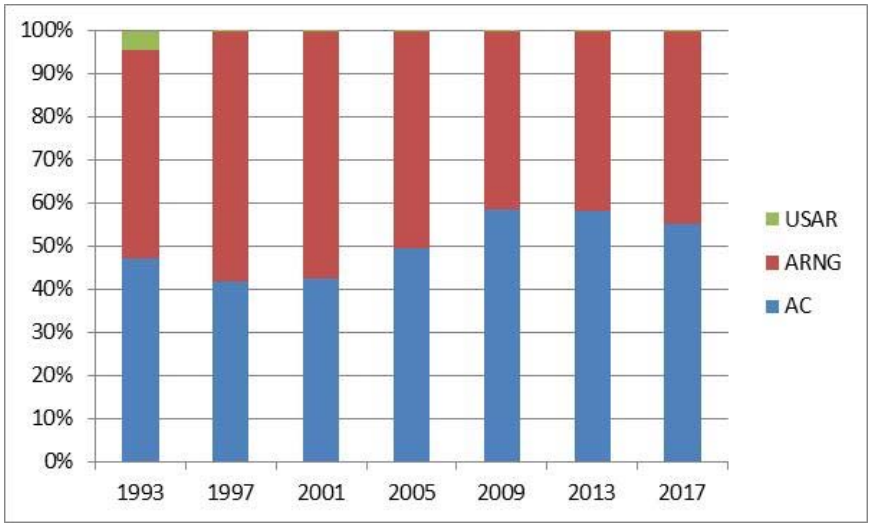
a. Combat Units

A significant shift has occurred in the mix of combat units between the AC and the RC. After the Base Force reductions (1990), about 50 percent of the combat unit personnel were in the ARNG and 5 percent in the USAR. The USAR combat units were inactivated just after 1993. The allocation of combat units changed significantly after 2001, when the AC added combat units and a significant number of ARNG combat units were converted into support units. In 1997, the AC provided 40 percent of the combat units, but in 2013, the AC provided close to 60 percent of the combat units. Figure 3 and Figure 4 show the military strengths of the combat units of the Army's Operating Force from FY1993 to FY2017.



Source: Army staff, G3/5/7.

Figure 3. Strengths of Combat Units by Component

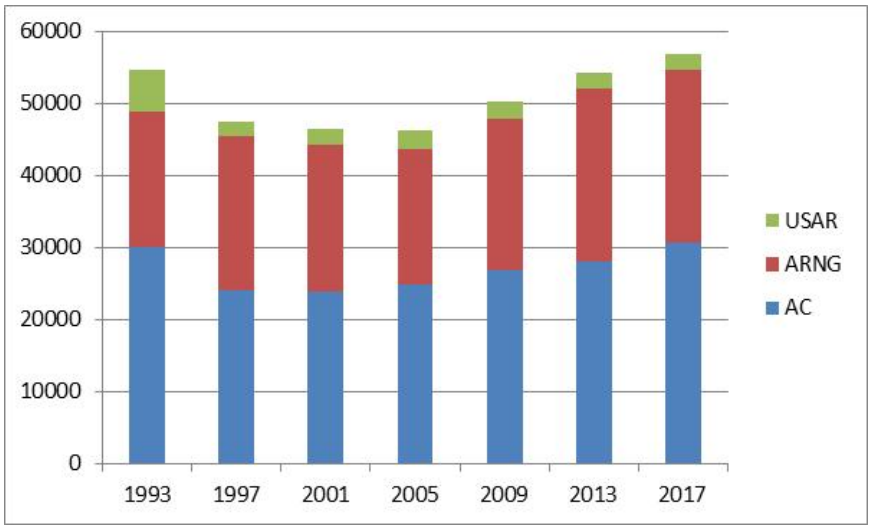


Source: Army staff, G3/5/7.

Figure 4. Proportions of Combat Unit Strengths by Component

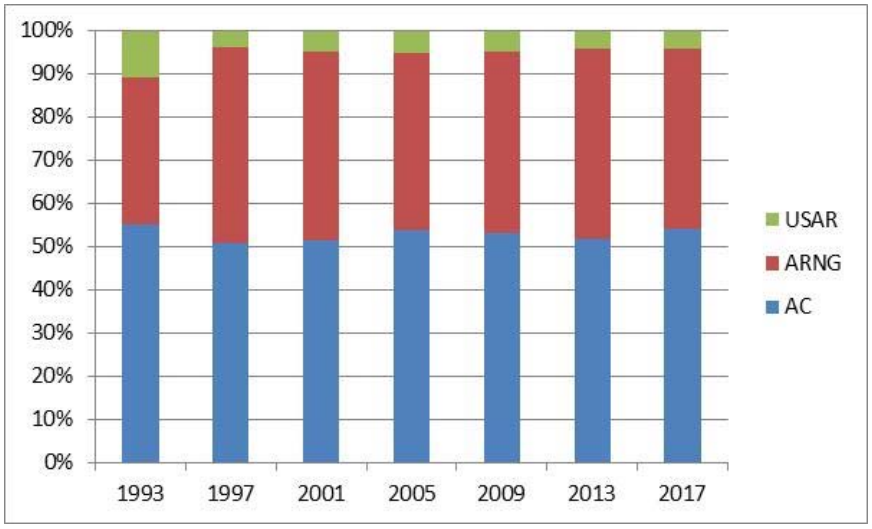
b. Aviation Units

From a low point in FY2001, the strengths in Aviation units have increased by about one-third, probably in response to the demands of the campaigns in Iraq and Afghanistan. Most of the increase is in the AC, in absolute terms and in relative proportions. Aviation unit strength also increased slightly in the ARNG. Some of the increase is programmed to occur between 2013 and 2017. See Figure 5 and Figure 6.



Source: Army staff, G3/5/7.

Figure 5. Strength of Aviation Units by Component

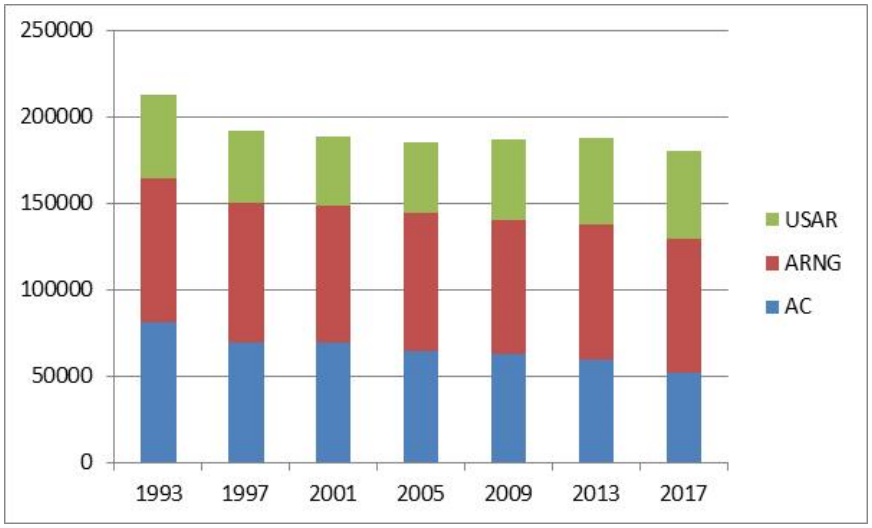


Source: Army staff, G3/5/7.

Figure 6. Proportion of Aviation Unit Strengths by Component

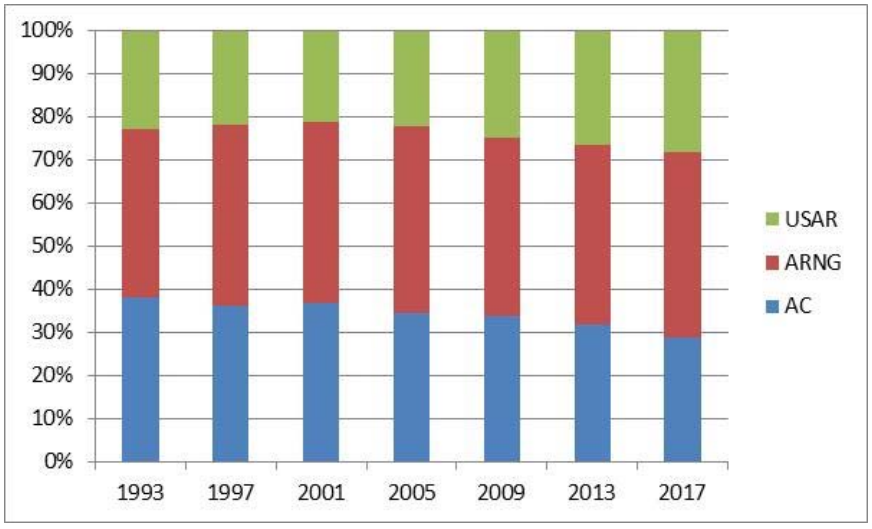
c. CS Units

The data for the CS category (see Figure 7 and Figure 8) show a significant decrease in AC CS unit strengths, with a corresponding increase in USAR CS unit strengths. These data do not provide any idea of the kinds of units involved in this change in the mix.



Source: Army staff, G3/5/7.

Figure 7. Strengths of CS Units by Component

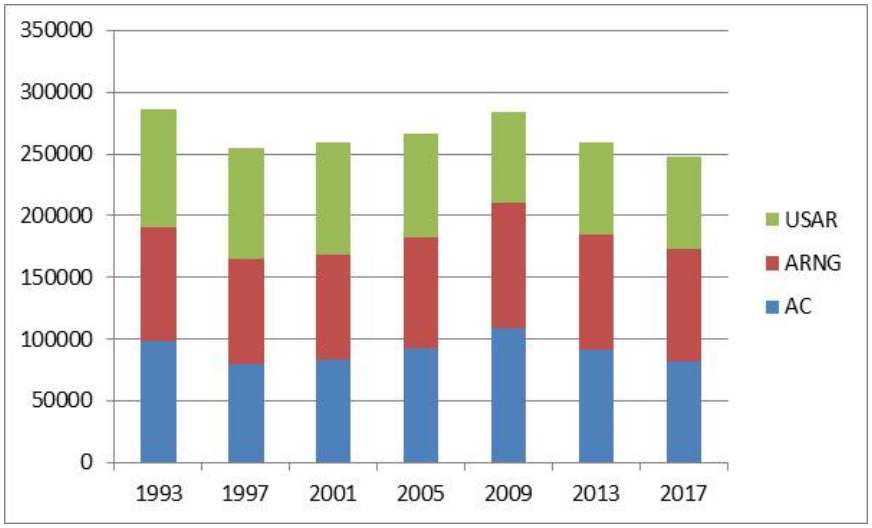


Source: Army staff, G3/5/7.

Figure 8. Proportion of CS Units by Component

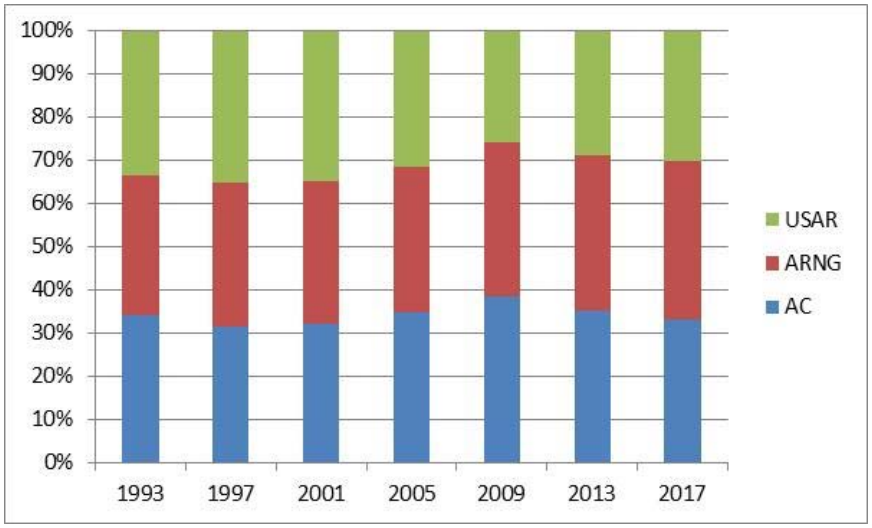
d. CSS Units

The data for the CSS category (see Figure 9 and Figure 10) also show a decrease in AC CSS unit strengths, with a corresponding increase in USAR CSS unit strengths. This trend and that for CS units indicate that the Army is moving away from having a full suite of support units in the AC and is increasing dependency on the USAR for that support.



Source: Army staff, G3/5/7.

Figure 9. Strengths of CSS Units by Component

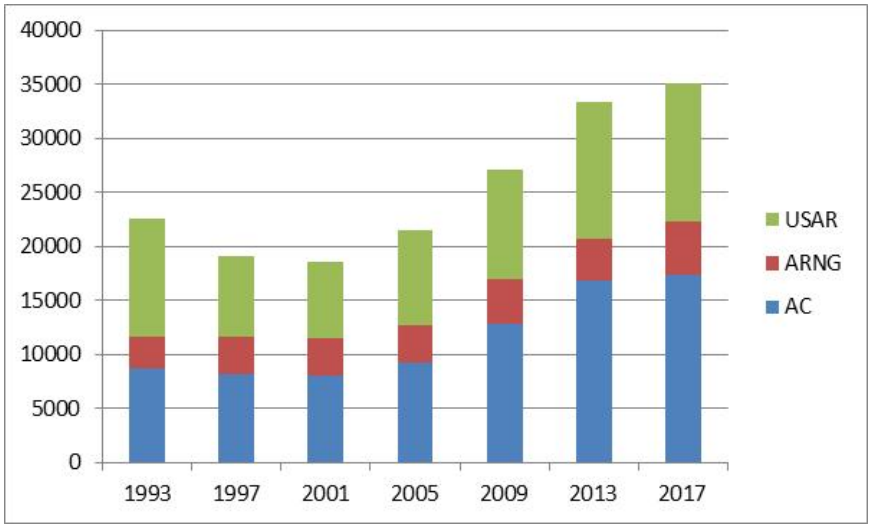


Source: Army staff, G3/5/7.

Figure 10. Proportions of CSS Unit Strengths by Component

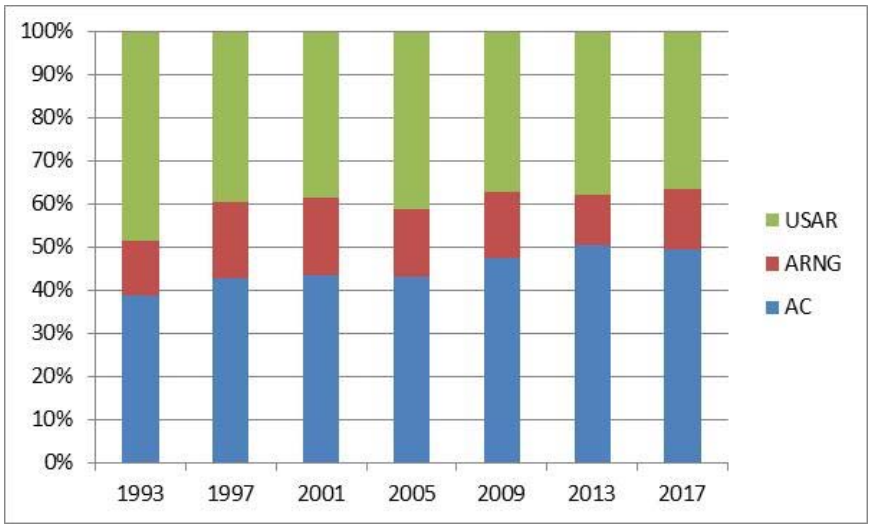
e. Special Operations

The data for the Special Operations category (see Figure 11 and Figure 12) show a significant increase in the AC SOF strength (about 4,500), including about 2,000 personnel to provide an AC CA battalion for each Special Forces group. These data do not reflect the transfer of administrative control of USAR CA and MISO units from the U.S. Army Special Operations Command (USASOC) to U.S. Army Reserve Command (USARC) and their change of mission to focus on support to General Purpose Forces (GPF). About 8,500 USAR CA personnel support the GPF.



Source: Army staff, G3/5/7.

Figure 11. Strengths of Special Operations Forces by Component

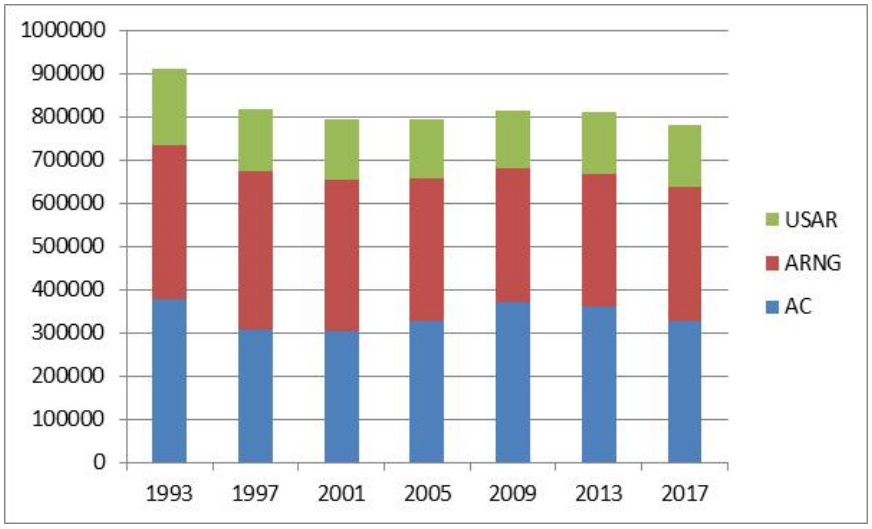


Source: Army staff, G3/5/7.

Figure 12. Proportions of Special Operations Forces Strengths by Component

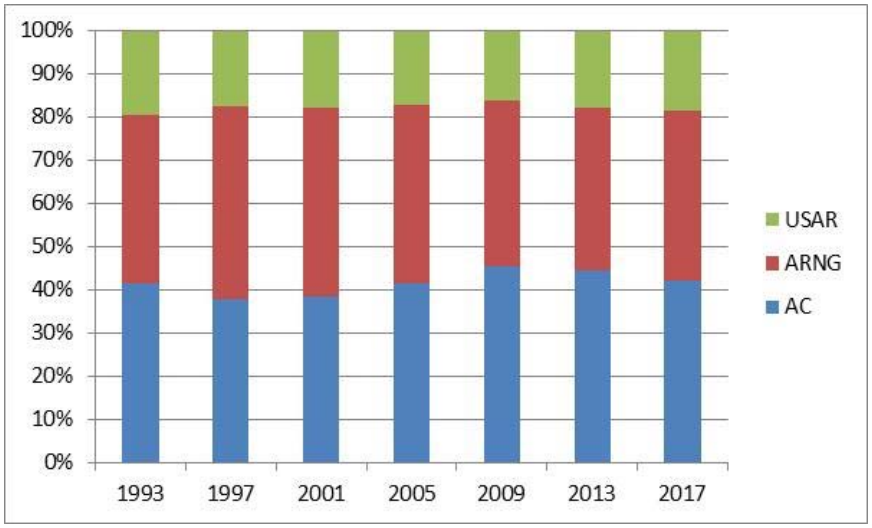
f. Total Operating Force

Figure 13 and Figure 14 show the total strength of the Operating Force. The proportions of the components in the Operating Force are stable at 40 percent AC, 40 percent ARNG, and 20 percent USAR. This apparent stability, however, masks some significant changes, including the increase in AC SOF, the reduction in ARNG combat units, and the increase in USAR support units.



Source: Army staff, G3/5/7.

Figure 13. Strengths of the Army's Operating Force by Component



Source: Army staff, G3/5/7.

Figure 14. Proportion of the Army's Operating Force Strengths by Component

Table 2 shows military strengths for each Operating Force functional area by component. The right column shows the percentage of AC strength for each functional area. Several comments are useful to understand the data:

- **Medical.** The medical function does not show the medical personnel in non-medical units in the Operating Force or the medical personnel in medical units in the Generating Force.
- **Logistics.** A large number of new kinds of multi-functional support units are listed as Logistical Headquarters, including sustainment and expeditionary support units that provide a variety of goods and services.
- **Bands.** In additional to bands in the Operating Force, many bands are also in the Generating Force.
- **Chaplains, Military Historians, and Judge Advocates.** In the AC, these professionals are assigned to other units. These numbers apply only to Chaplain Detachments, Military History Detachments, and Judge Advocate General (JAG) units.

Table 2. Operating Force for 2013

Functional Area	AC	ARNG	USAR	Total	Percent AC (%)
Field Artillery	19,614	18,046		37,660	52
Infantry	67,886	49,566	694	118,146	57
Armor/Cavalry	18,606	13,668		32,274	58
Air Defense Artillery	11,851	3,133		14,984	79
Infantry	1,757	221		1,978	89
Infantry Div/Brigade HQs	11,529	11,332		22,861	50
Heavy Div/Brigade HQs	17,472	10,442		27,914	63
Aviation	28,145	23,978	2,188	54,311	52
Chemical	2,786	4,524	5,468	12,778	22
Engineer	18,374	36,348	22,817	77,539	24
Signal	12,545	5,386	3,683	21,614	58
Military Police	15,693	23,702	12,425	51,820	30
Military Intelligence	3,989	,160	2,634	6,783	59
Military Intelligence Communications	3,928	2,802	1,228	7,958	49
Interpreter/Translators	316	100	100	516	61
Maneuver Enhancement	532	3,072	606	4,210	13
Space	515	422	217	1,154	45
Battlefield Surveillance Brigades	525	1,225		1,750	30
Information Operations	134	642	621	1,397	10
Bands	1,225	320		1,545	79

Table 2. Operating Force for 2013 (Continued)

Functional Area	AC	ARNG	USAR	Total	Percent AC (%)
Medical	7,028	4,475	16,234	27,737	25
Ordnance (Missile Maintenance)	3,831	777	2,570	7,178	53
Quartermaster	2,441	2,773	13,373	18,587	13
Adjutant General	1,445	438	2,939	4,822	30
Finance	1,325	1,095	866	3,286	40
Chaplain		26	104	130	0
Military History	3	21	73	97	3
Judge Advocate		117	1,695	1,812	0
Supply	2,034	1,157	3,075	6,266	32
Ordnance (Maintenance)	2,498	8,920	2,002	13,420	19
Public Information	254	769	698	1,721	15
Transportation	8,863	19,727	21,588	50,178	18
Logistics Headquarters	59,238	52,072	9,865	121,175	49
Acquisition	1,049	316	149	1,514	69
Special Operations	11,530	3,881		15,411	75
Psychological Operations	2,713		4,203	6,916	39
CA	2,584		8,477	11,061	23
Army Headquarters	4,852	440	727	6,019	81
Corps Headquarters	2,375			2,375	100
Operating Force TDA Units	10,029	1,544	2,338	13,911	72

Source: Army staff, G3/5/7.

g. Major Combined Arms Organizations

The next data to be displayed are the Army's combined arms organizations and maneuver battalions during the period of interest. At the end of the Cold War in 1989, the Army had 18 AC divisions with 46 AC brigades, 8 ARNG roundout brigades, and 10 ARNG divisions with 30 brigades. There were also 3 separate brigades in the AC, 16 separate brigades in the ARNG, and 3 separate brigades in the USAR, for a total of 106 combat brigades.[39] By 1993, the number of AC divisions had been reduced from 18 to 12 and the number of ARNG divisions had been reduced from 10 to 8. The roundout brigades were reassigned. All of the AC separate brigades were inactivated except for two Armored Cavalry Regiments (ACRs). The result of these force structure actions was to reduce the Army's combat potential, as shown in Table 3, to 90 combat

[39] Counts of maneuver brigades exclude those that were part of the Generating Force to support the Training Establishment. Armored Cavalry Regiments are also excluded from this count. This count of 106 combat brigades = 46 + 8 + 30 + 3 + 16 + 3.

Table 3. Army Combined Arms Organizations FY1989–FY2017

	1989	1993	1997	2001	2005	2009*	2013*	2017†
Corps Headquarters								
AC	5	5	5	4	4	4	3	3
Division Headquarters								
AC	18	14	12	12	10	10	10	10
ARNG	10	8	8	8	8	8	8	8
Total	**28**	**22**	**20**	**20**	**18**	**18**	**18**	**18**
Combat Brigades or BCTs‡								
AC Divisional	46	39	36	32	32	–	–	–
AC Separate	3	6	4	4	4	45	45	32
Total AC	**49**	**45**	**40**	**36**	**36**	**45**	**45**	**32**
ARNG Divisional	30	24	24	24	19	–	–	–
ARNG Separate	16	18	3	2	16	28	28	28
ARNG Roundout	8	–	–	–	–	–	–	–
ARNG Enhanced	–	–	15	15	–	–	–	–
Total ARNG	**54**	**42**	**42**	**41**	**35**	**28**	**28**	**28**
USAR Separate	3	3	–	–	–	–	–	–
Total Brigades§	**106**	**90**	**82**	**77**	**71**	**73**	**73**	**60**

Sources: FY1989, FY1993, and FY1997: John R. Brinkerhoff, *Army Combat Potential FY1962–FY2000,* IDA Document D-2498 (Alexandria, VA: Institute for Defense Analyses, January 2001); FY2001: *ARMY Magazine*, "Green Book 2001–02," October 2001, 208–225; FY2005 and FY2009: Army Structure Message (ARSTRUC), TAA-11 (Washington, DC: Headquarters, Department of the Army (HQDA), 21 June 2005); FY2013 and FY2017: Army Budget FY2013 (Washington, DC: Assistant Secretary of the Army for Financial Management and Comptroller (ASA (FM&C)), June 2003).

*IBCTs and ABCTs have two maneuver battalions each. SBCT has three maneuver battalions.

†All BCTs are assumed to have three maneuver battalions.

‡Excludes ACRs, the 75th Ranger Regiment, Eskimo Scout Group, and school troop brigades.

§The **Total Brigades** are the sums of Total AC + Total ARNG + USAR Separate

brigades by the end of FY1993. The reductions continued, and, in 2001, the Army had 71 combat brigades. That number remained the same after the major campaigns in the CENTCOM area of operations and remained at that level through FY2013. Starting in 2003, the Army of Excellence (AoE) combat brigades that each had three maneuver battalions were replaced by Modular Brigade Combat Teams (BCTs) that had two maneuver battalions, except for the Stryker Brigade Combat Teams (SBCTs) that had three. This situation persisted through FY2013, when the Infantry Brigade Combat Teams (IBCTs) and Armored Brigade Combat Teams (ABCTs) began converting

to a three-maneuver battalion configuration. The result of this reorganization is that the number of brigades will decrease, but the number of maneuver battalions will remain about the same.[40]

h. Maneuver Battalions

Another measure of land combat potential is the number of maneuver battalions: Infantry, Mechanized, Stryker, Tank, or Combined Arms. Table 4 shows the number and mix of maneuver battalions from FY1989 to FY2017. The data in this table do not include the three battalions of the 75th Ranger Regiment, the Scout battalions of the Alaska National Guard, light anti-tank battalions, armored cavalry or the Reconnaissance, Surveillance, and Target Acquisition (RSTA) squadrons, and battalions used as school troops. Figure 15 and Figure 16 show the numbers and proportions of maneuver battalions during the period of interest.

Table 4. Army Maneuver Battalions FY1989–FY2017

	1989	1993	1997	2001	2005	2009*	2013†	2017‡
AC	161	125	97	94	92	95	95	96
ARNG	175	136	124	122	109	74	71	71
USAR	12	11	1	1	1	1	1	1
Total	**351**	**275**	**225**	**217**	**200**	**170**	**167**	**168**

Sources: FYs 1989–2001: Tillson, Brinkerhoff, and Magruder, *Total Army Analysis 2009 (TAA09): A Critical Review*; FY2005–FY2009: ARSTRUC TAA-11; FY2013 and FY2017: based on BCT count.

* Mix of AoE brigades with three battalions and Modular BCTs with two battalions in IBCTs and ABCTs and three battalions in SBCTs.

† Modular BCTs with 2 battalions in IBCTs and ABCTs, 3 battalions in the SBCTs, and 14 separate ARNG infantry battalions.

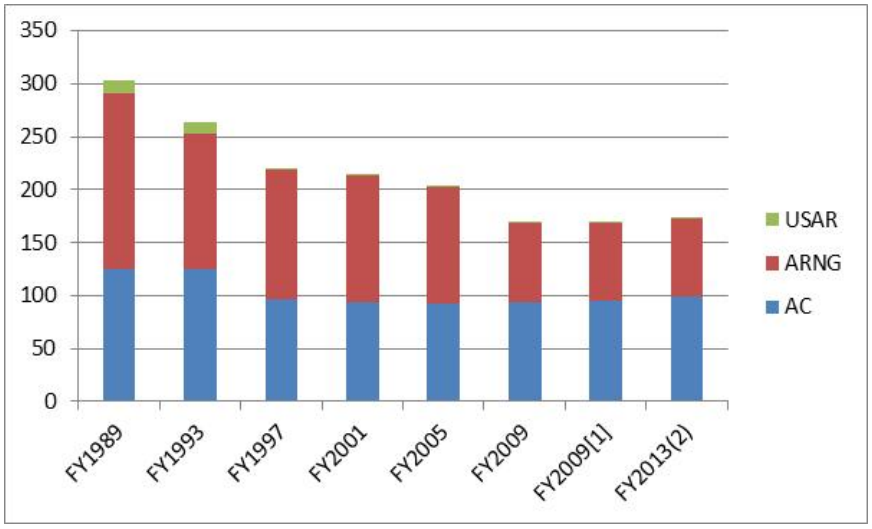
‡ Modular Force organizations with 3 maneuver battalions in each AC BCT and 15 of the 28 ARNG BCTs.

The data show that Army land combat potential, as measured by maneuver battalions, is now about half of that available at the end of the Cold War. The AC-RC mix has changed significantly. At the end of the Cold War, the ARNG and USAR provided 60 percent of the maneuver battalions. For FY2013 and beyond, the ARNG has provided about 44 percent.

2. Generating Force

The AC-RC mix of the military personnel in the Generating Force is shown in Figure 17 and Figure 18. While the number of military personnel in the Generating Force has declined, the proportions among the components have been stable.

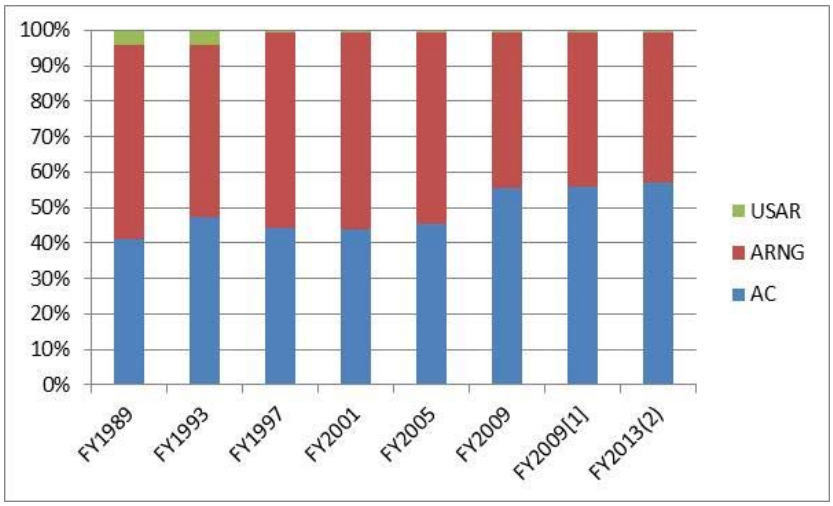
[40] Matthew Cox, "Army to Add More Infantry Battalions in 2013," *DODBuzz.com*, 20 February 2013, http://www.dodbuzz.com/2013/02/20/army-to-add-more-infantry-battalions-in-2013/. This situation may change as the Army refines its force structure further.



Source: Table 4.

Figure 15. Number of Maneuver Battalions by Component

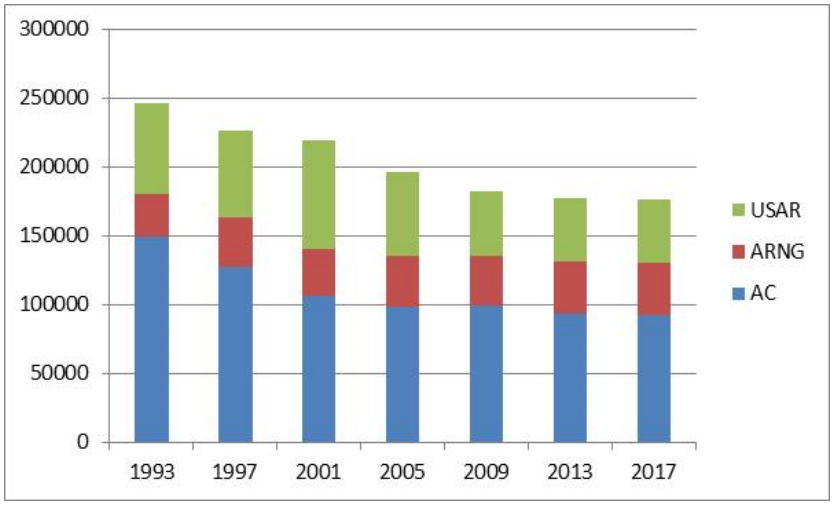
Note for Figure 15: FY2009[1], Modular Force organizations with two maneuver battalions in each BCT; FY2013(2), Modular Force organizations with three maneuver battalions in each BCT.



Source: Table 4.

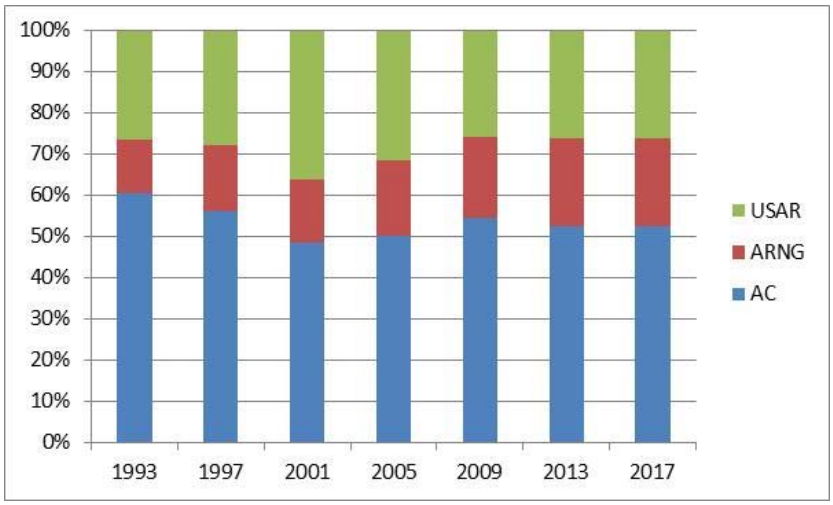
Figure 16. Proportion of Maneuver Battalions by Component

Note for Figure 16: FY2009[1], Modular Force organizations with two maneuver battalions in each BCT; FY2013[1](2), Modular Force organizations with three maneuver battalions in each BCT.



Source: Army staff, G3/5/7.

Figure 17. Strengths of the Generating Force by Component



Source: Army staff, G3/5/7.

Figure 18. Proportion of Strengths in the Generating Force by Component

The Army manages its Generating Force by commands and activities. Table 5 shows the breakout of the Generating Force for FY2013 including civilian employees.

Some caveats need to be observed when reading Table 5. The data were compiled from multiple sources at different times.

The civilian data are stated in terms of Full-Time Equivalents (FTEs).[41] These data include U.S. and Foreign National direct hire employees and also about 13,000 Dual-Status Military

[41] The term Full-Time Equivalent (FTE) is a measure of workforce participation and aggregates four categories of civilian employees: Full-Time Permanent. Part-Time Permanent, Temporary Part-Time, and Intermittent.

Table 5. Generating Force Military and Civilian Strengths by Component and Command for FY2013

Generating Force FY2013	AC	ARNG	USAR	Civilians	Total
Army Headquarters	2,882	88	300	12,587	15,857
Army Forces Command	10,414	92	11,400	1,594	23,500
Army Reserve Command	66		9,796	4,408	14,204
Army Training and Doctrine Command	35,354	174	15,600	15,592	66,720
Army Materiel Command	1,594	6	400	59,625	61,625
Army National Guard Headquarters	99	851	1	905	1,856
National Guard Bureau		225		205	465
State Joint Force Headquarters		12,430		6,818	19,248
Regional Training Institutes		4,250		160	4,410
Training Centers and Training Site Management		5,282		1,416	6,698
Recruiting and Retention		5,623		47	5,670
Troop Commands		2,482		59	2,541
Operational Airlift		416		74	490
Other TDA		1,427		3,981	5,408
Army Service Component Commands					
Space and Missile Defense Command (SMDC)	169		50	519	738
U.S. Army Special Operations Command (USASOC)	1,176		300	259	1,735
USARSOUTH (Sixth Army)				295	295
USARCENT (Third Army)	518		100	66	684
USAREUR (Seventh Army)	1,782		401	730	2,913
USARNORTH (Fifth Army)	72	1,254	200	203	1,729
USARPAC (U.S. Army Pacific)	735		818	841	2,394
USARAF (U.S. Army Africa)			190		190
Direct Reporting Commands					
Network Command	76			3,328	3,404
Medical Command	24,326	4,034	4,200	42,282	74,842
Intelligence and Security Command (INSCOM)	179			40	219
Criminal Investigation Division Command (CIDC)	189			79	268
U.S. Army Corps of Engineers (USACE)	121		50	10,112	10,283
Military District of Washington (MDW)	205			261	466
Army Test and Evaluation Command (ATEC)	484			4,843	5,327
United States Military Academy (USMA)	2,112			701	2,813
Acquisition Support Center	578			3,857	4,435
Arlington National Cemetery				201	201
Installation Management Command (IMCOM)	1,558			27,436	28,994
OSD, Defense Agencies, Joint Headquarters and Activities	8,431	196	2,800	3,078	14,505
Total Generating Force	**93,054**	**38,830**	**46,416**	**206,827**	**385,127**

Sources: AC data provided by Army G3/5/7 Force Management (FM) Directorate; USAR data provided by Army Comments, April 2013; civilian personnel data and the breakout of ARNG personnel provided by LTC John Paul Cook, OASA(M&RA), 27 May 2013.

Technicians who are also counted as military personnel. The assignment of these military technicians to the functions of the Operating Force or the commands of the Generating Force is not known, and they are not listed in the table. After correcting for this dual counting, the civilian strength of the Generating Force is about 190,000 FTEs.

Another caution is that the USAR and ARNG account differently for their Generating Force functions. Generating Force capabilities in the ARNG are oriented primarily to operate in support of ARNG Operating Force units and are difficult to relate to AC commands or functions. USAR Generating Force personnel provide broad support for the AC Generating Force elements and can be related logically with the AC commands and/or functions that they augment.

Most of the USAR Generating Force provides mobilization base expansion capability and augmentation to Joint and Army headquarters during a crisis.[42] The USAR does this through Reserve Augmentation Units attached to headquarters and the assignment of IMAs to AC units, including Joint and Army headquarters. USAR training and exercise commands and divisions support the collective training and readiness support functions of U.S. Army Forces Command (FORSCOM) for units of all components. Some training divisions are assigned to U.S. Army Training and Doctrine Command (TRADOC), to conduct individual basic and skill training. USAR units also support TRADOC in the Total Army School System. USAR medical units are part of the Medical Command. USAR personnel residing overseas provide support for United States Army Europe (USAREUR) and United States Army Pacific (USARPAC), respectively.

It is difficult to relate the ARNG Generating Force to AC commands because the National Guard is organized almost entirely to support itself. The ARNG does provide military personnel to work in AC headquarters, but these personnel are almost entirely full-time Active Guard Reserve (AGR) personnel. The National Guard has schools, academies, and training centers that are organized to train and educate the National Guard and often civilians from local and state agencies that support the Homeland Security functions of the National Guard. Many ARNG Generating Force personnel staff State headquarters and State troop commands that are nondeployable. These organizations include State military headquarters, Joint Force Headquarters, and other State-focused activities.

Overall, the AC-RC mix of the Army's Generating Force demonstrates a high degree of interaction that provides day-to-day support and a capability for expansion as necessary to meet operational demands.

F. Observations

Since the end of the Cold War, frequent, almost constant changes have occurred in the Army force structure. These changes have been caused by reductions in Army funding and personnel authorizations, by attempts to correct the balance between combat units and support units, and, in the case of Modularity, by the introduction of new unit designs and doctrine for the organization of the Army-in-the field. Another major reason for change has been the necessity to create new units, modify some existing units, and revise the mix of units to meet the demands of two major counterinsurgency campaigns. These changes affected the whole Army and also caused some

[42] U.S. Army, *The Army,* Army Doctrinal Publication (ADP) 1 (Washington, DC: Headquarters, Department of the Army, September 2012), A-2, http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp1.pdf.

modification of the Army AC-RC mix. One major improvement was the clarification of the roles and missions of the two Army RCs, which was undertaken in response to the drastic reductions incurred immediately after the end of the Cold War. Once the new arrangements in the Off-Site Agreement of 1993 were made, the emphasis shifted to rectifying perceived shortages of support units in the AC part of the Operating Force.

1. Allocation of Combined Arms Organizations

The tendency has been to retain a large part of the Army's combined arms organizations (divisions and BCTs) in the AC. However, the Army made use of ARNG division and brigade commanders and staffs to conduct operations in the Balkans and in Iraq and Afghanistan, sometimes to conduct full spectrum operations but more often to carry out less demanding but still important security or peacekeeping missions. Another major factor in the modification of the AC-RC mix has been an ongoing effort to provide sufficient numbers and types of support units to maximize the output of the BCTs on a sustained basis. This effort began after the experience of Desert Storm showed that the AC needed RC support for even minor operations and resulted in the conversion of 12 ARNG combat brigades into support units. Subsequently, the AC attempted to improve its self-sufficiency by establishing more AC support units, particularly for the surge in Iraq. The lack of military support units overall has resulted in increased dependence on civilian contractors to provide supplies and services in the combat zones. This use of civilian contractors has allowed the Army to retain needed depth in combat structure without having to invest in more support units. The necessity for external (non-military) support in the post-Cold War era was first observed during Desert Storm, but the impact during that operation was cushioned because most of the external support costs were borne by Saudi Arabia and other members of the coalition. It became apparent, however, that in the future, the Army Operating Force would have to depend on very large numbers of contractors to conduct major sustained operations. In OEF and OIF, it took roughly one contractor to sustain one Soldier or Marine. This experience suggests that for the Operating Force, contractors should be part of the mix analysis, and, for the Generating Force, both contractors and civilian employees should be considered.

In this period of long-term austerity, consideration has been given to the long-term savings that might be achieved by transferring large numbers of AC units into the ARNG and/or USAR. The risk of this transfer is perceived by some as being mitigated by having easier access to the RC units and by the evident enthusiasm of RC leaders for remaining in an Operational Reserve status on a 5- or 6-year rotational schedule. When considering such transfers, it is necessary to analyze the real costs of making them.

2. Process

The Army has a well-defined and orderly process for managing the AC-RC unit mix. The focal point is the FM Directorate of the G-3/5/7 on the Army Staff. This office is the authority and office of record for the troop list of current and future units. According to the Army,

> The annual "Shaping" process called the Total Army Analysis (TAA) determines the best mix of capabilities across components within the given end-strength for each component. The resulting list of capabilities is used to build the Army budget submission and is known as the Army Program Objective Memorandum (POM) Force. TAA is based on the strategy as outlined in the Defense Planning Guidance (DPG) and uses OSD-approved scenarios and vignettes, real-world deployment data, and COCOM [combatant command] Commander OPLANs [operations plans]. Using these multiple data points, the Army determines a range of demands for each capability as it is exercised across the full range of military operations (ROMO). By comparing the demands for each capability using the content of the current inventory, the Army assesses where it will likely encounter stress and require additional inventory. This demand picture, largely driven by OPLANs and computer modeling, is then refined using best military judgment (human in the loop) to ensure those intangible elements that were unable to be accounted for in the modeling are considered (e.g., an Aviation company may take 3 years to build and a truck company 30 days; Hawaii needs a non-BCT Active Component Colonel level command to provide training and readiness oversight for enablers based in Hawaii; or contractor support for line-haul trucking is easy to obtain in Phases IV and V). After careful review, an assessment of risk is determined for each capability. This risk is used to build the proposed POM Force, which is then staffed and presented to senior officials who approve the POM Force … TAA focuses on shaping the Army within the end-strength given and leaves the 'sizing' (end-strength) to the QDR and congress.[43]

3. Constraints

Substantial and perhaps even trivial changes to the AC-RC mix face several constraints: transaction costs and time (mentioned earlier) and pressure from service organizations and Congress.

a. Transaction Costs and Time

Proposals to change the AC-RC mix by moving units from AC to RC need to account for the one-time transaction costs that such moves would incur. Some current cost models are incomplete and do not provide an adequate basis for AC-RC mix decisions. They consider operation and maintenance (O&M) and materiel unit costs in the context of ARFORGEN. The findings invariably are that RC units are less costly when they are not on active duty and equally costly to AC units when they are on active duty. These findings are neither new nor startling and, in fact, are the basis for having RC units in the Army. When considering changes from one component to another, cost models also need to address the costs incurred by inactivating an AC unit and activating a corresponding RC unit or vice versa. A proposal to move a unit from AC to RC should consider the time it takes to form a new unit in the RC. It could take a year to add a third maneuver

[43] Kerry J. Schindler (Army Staff, G-3/5/7), "Description of Army Force Management Process" (Washington, DC: Headquarters, Department of the Army, 22 January 2013).

battalion to an existing AC BCT. Presumably, it would take that much or more time to create a new AC unit of comparable size and complexity. It could take 5 years to form, resource, and train a new RC BCT. The transaction costs could involve military construction, transportation of materiel, recruiting, and increased risk for having non-deployable units for that period of time.

b. Service Organizations

The Active Army, ARNG, and USAR are supported by outside service organizations that advocate for policies that affect the members of their respective components. They tend to favor increases in pay and benefits and to resist reductions in strength and readiness. The Association of the U.S. Army (AUSA) and other service organizations will resist transfers from the AC to the RC, the National Guard Association (NGA) will resist reductions in the ARNG, and the Reserve Officers Association (ROA) will resist reductions in the USAR. On the other hand, changes in the AC-RC mix that increase the size of the ARNG or USAR or provide better equipment and more important roles will be supported by these service organizations. Proposals to change the AC-RC mix have a greater chance of success if these outside organizations are consulted beforehand. The 1993 Off-Site Agreement, which settled amicably how the Army would adjust to the large Base Force cuts, was produced by a team that included representatives of the Service organizations and DOD officials.

c. Congress

Congress has the final say in any proposed change in the Army AC-RC mix, and considerable sentiment in Congress supports the RC. The Senate has a National Guard Caucus and a Reserve Caucus. The House of Representatives has a combined National Guard and RCs Caucus. Congress also has Service-oriented caucuses. Whatever changes are proposed, substantial opposition to reductions in RC funding and strengths is likely.

As the Army faces reductions in military personnel strength and overall funding, proposals that involve changing the AC-RC mix in some ways will probably surface. When addressing these proposals, understanding the consequences of such changes is useful. The AC-RC mix in the Army is determined by the force structure requirements determined during the TAA process and constrained by Congressionally authorized strengths for each component. The resulting AC-RC mix in the Army should maximize the delivery of appropriate capabilities at the least cost. Achieving the optimum mix is complicated and requires ongoing collaboration between the Army, outside Service organizations, OSD, and Congress.

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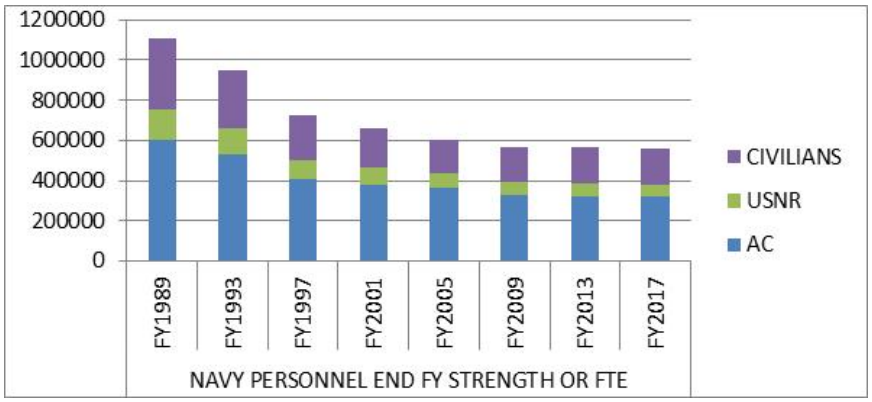
3. The AC-RC Mix in the U.S. Navy

This chapter summarizes the evolution of the Naval Reserve in the post-WW II era and focuses primarily on the period from the 1970s to the present. It describes the composition and history of Naval surface, air, special warfare, and combat support Reserve units. The chapter concludes with observations about the employment and integration of the Reserve and the leadership's role and responsibility for ensuring a balanced AC-RC mix in the Navy's force structure.

A. Introduction

Figure 19 and Figure 20 depict the mix of Active and Navy Reserve units and personnel since the end of the Cold War and show the AC-RC-CIV mix of personnel for the Navy at 4-year intervals from FY1989 to FY2017.[44]

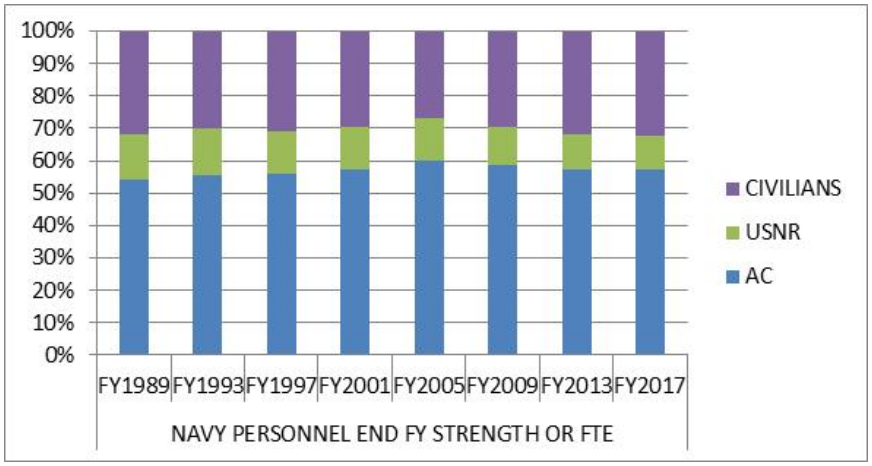


Source: Appendix A of this document.

Figure 19. Number of Navy Personnel by Component

As depicted in Figure 19, the Navy has become progressively smaller in terms of personnel since the end of the Cold War in 1989. The number of active duty personnel has been reduced by 46 percent, from 592,652 in 1989 to a FY2013 end-strength of 323,951. The number of Naval reservists—SELRES and Full-Time Support (FTS) personnel—has been reduced by 61 percent, from 161,031 in 1989 to a FY2013 end-strength of 62,444. During that same timeframe, the

[44] Data exclude approximately 9,500 civilians in Navy Department Headquarters.



Source: Appendix A of this document.

Figure 20. Proportion of Navy Personnel by Component

number of Active Navy ships has been reduced by 52 percent, from 592 to 285, and the number of Naval Reserve Force (NRF) ships by 82 percent, from 45 to 8. (As will be discussed later, the 8 NRF ships are not in addition to the 285 ships of the Battle Force but are included in that number.) The number of aircraft in the Active Navy has been reduced by 45 percent, from 2,476 to 1,335, and the number of Navy Reserve aircraft has been reduced by 58 percent, from 373 to 157. Despite these significant reductions, as shown in Figure 20, the proportions of active military personnel, reserve military personnel, and civilian employees have remained about the same. The story starts in 1974.

B. Evolution of the Naval Reserve: 1970–1989

The term *Naval Reserve* is used for events before 2005, and the term *Navy Reserve* is used for events in 2005 and later. Before 2005, the Navy's RC was referred to as the Naval Reserve.[45] In 2005, the Naval Reserve was redesignated the Navy Reserve by Public Law (P.L.) 109-163, Section 515.[46]

1. One Navy Concept: 1970–1981

John W. Warner, who served as Secretary of the Navy from 1972 to 1974, declared a "One Navy Concept"—the Navy's version of the Total Force Policy. The One Navy Concept had a

[45] The Chief of Naval Operations (CNO) announced this change, stating in part, "On 29 April 2005, the Commander in Chief redesignated our Reserve Component from Naval Reserve to Navy Reserve. This is more than just a name change. It more accurately describes our alignment as one Navy ..." (Chief of Naval Operations, "Active-Reserve Force Integration," NAVADMIN 121-05 (DTG 031503Z June 05), http://www.npc.navy.mil/bupers-npc/reference/messages/Documents/NAVADMINS/NAV2005/nav05121.txt).

[46] National Defense Authorization Act for Fiscal Year 2006. Public Law 109-163, Title V, *Military Personnel Policy*, Section 515, 119 Stat. 3233 (January 2006), http://www.gpo.gov/fdsys/pkg/PLAW-109publ163/pdf/PLAW-109publ163.pdf.

significant impact on the Navy and the Naval Reserve. A smaller AVF Navy needed to be supported by a strong and integrated RC.[47] "Integration of specifically dedicated units into war planning replaced ad hoc augmentation as the central mission of the Naval Reserve."[48] The Naval Reserve began to shift from a set of individual augmentees (IAs) to a force of mission-specific units.

The Naval SELRES became "a force able to deploy rapidly and operate side-by-side with active-force units rather than simply to provide replacements for active losses."[49] Consistent with this integration, the Navy shifted some Active Navy missions and assets to the Naval Reserve to save money. The Naval Reserve mirrored the Active Navy, and Reserve units were to be able to mobilize rapidly for operations with similar Active Navy units. Anti-submarine warfare (ASW), aviation, and mine warfare assets were placed in the Naval Reserve. New missions in areas such as intelligence, medical care, and NATO support also increased Naval Reserve responsibilities.[50] Within this rebalanced force structure, the CNO established categories of Naval Reserve forces in order of importance. Ships and air squadrons were at the top of the priority list, with individuals and shore support augment units coming next in line.[51]

This integration of the Naval Reserve with the Active Navy led to changes in the organization of the Naval Reserve. After the end of World War II, the Naval Reserve had been reconstituted as a training organization devoted to training Naval aviators and surface ship and submarine crews operating Reserve Fleet ships and submarines. Reservists were also assigned to a variety of mission support functions, such as manning shore support units, expanding the training establishment, and providing specialists.[52] However, in many respects, the Naval Reserve remained a partly self-sufficient organization that was separate from the Active Navy.

Starting in 1970, fundamental changes in organizational arrangements occurred. Naval Reserve destroyers that were previously assigned to Naval Districts were placed under the direct control of Fleet Commanders.[53] In 1972, the Commander, Naval Reserve Training became Commander, Naval Surface Reserve, responsible for readiness and training of Naval reservists who were not in the Naval Air Reserve.[54] In 1973, the Naval Reserve Command was established and

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[47] James E. Watters et al., *U. S. Naval Reserve: The First 75 Years,* Naval Reserve Paper No. 1 (Newport, RI: U.S. Naval War College, 30 September 1992), 304–305.

[48] Mel Chaloupka James E. Watters, and L. L. Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends,* Naval Reserve Paper No. 4 (Newport, RI: U.S. Naval War College, 15 August 1992), 7-5.

[49] Watters et al., *U. S. Naval Reserve: The First 75 Years,* 304.

[50] Ibid., 302, 304.

[51] CNO Policy statement as reported in the *Navy Times*, 13 November 1974; Rick Bigelow, Mel Chaloupka, and Andy Rockett, *U. S. Naval Reserve: Chronology 1992,* Naval Reserve Paper No. 11 (Newport, RI: U.S. Naval War College, 1 October 1992), 187.

[52] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends,* 3-5.

[53] Watters et al., *U. S. Naval Reserve: The First 75 Years,* 306.

[54] Ibid., 310.

consolidated the Air and Surface programs into a single organization commanded by the Chief of the Naval Reserve (CNAVRES). The Commander, Naval Surface Reserve Force and Commander, Naval Air Reserve Force reported directly to the CNAVRES, who was also the Director, Naval Reserve on the CNO staff.[55] By 1976, 22 newly created Naval Reserve Readiness Commands throughout the country had "assumed local responsibility for Naval Reserve administration formerly assigned to Naval Districts."[56]

The semi-autonomous nature of the Naval Reserve was reflected in the mission statement for the Director, Naval Reserve:

> To exercise for the Chief of Naval Operations, policy direction, control, administration, and management of the Naval Reserve; to establish plans, programs, priorities, organizations, procedures, and standards for the Naval Reserve; to monitor the status of mobilization readiness of Naval Reserve units and personnel; and to provide budgetary support for the Naval Reserve Command and for Naval Reserve activities and programs.[57]

In the late 1970s, despite the stated intentions of civilian and uniformed Navy leaders, the gap between the policy and the reality of the One Navy Concept was growing. "The Naval Reserve faced dramatic reductions in end-strength requirements as well as a general period of neglect. While the active Navy was also facing tremendous pressures and reductions, the decreased emphasis on the Naval Reserve flouted the intent of DOD's Total Force Policy. The irony of this gap between policy and reality concerned the strategic rationale. Navy and OSD officials put forward a scenario for a lightning, presumably nuclear, war that precluded the need for large reserves and obviated the requirement for a vast and rapid mobilization. This strategy was more an expedient during a time of fiscal constraint than a logical posture, given that the U.S. had just officially sanctioned a policy of Mutually Assured Destruction (MAD) and legitimized Soviet nuclear parity with the United States."[58] By the end of the decade, "the Soviet invasion of Afghanistan and the Iranian hostage situation had clearly demonstrated the need for credible conventional forces,"[59] and a number of internal DOD studies had called for a larger Naval Reserve force.[60]

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[55] Chief of Naval Operations, "Establishment and Modification of Shore Activities," OPNAV NOTICE 5450, Ser 4552P09B33, 12 January 1973; Chief of Naval Operations, "Mission, Functions, and Organization of the Director of Naval Reserve," OPNAV NOTICE 5430, Ser 09B31/2080, 23 April 1973.

[56] Watters et al., *U. S. Naval Reserve: The First 75 Years,* 310–311.

[57] Chief of Naval Operations, "Mission, Functions, and Organization of the Director of Naval Reserve," OPNAV NOTICE 5430, Ser 09B31/2080, 23 April 1973.

[58] Patrick M. Cronin, *The Total Force Policy in Historical Perspective,* Research Memorandum (Alexandria, VA: Center for Naval Analyses, 1987), 25, http://www.dtic.mil/dtic/tr/fulltext/u2/a187619.pdf.

[59] Watters et al., U. *S. Naval Reserve: The First 75 Years,* 321.

[60] Cronin, *The Total Force Policy in Historical Perspective*, 25.

2. Horizontal Integration: 1981–1989

John F. Lehman, Secretary of the Navy from 1981 to 1987, promoted a new maritime strategy that gave the Navy a larger role in a conflict with the Soviet Union. The strategy required a 600-ship Navy—a 28 percent increase over 1980 levels.[61] "Lehman sought to incorporate the talents and loyalty of the Naval Reserve into all sectors of the active duty mission—a process he termed 'Horizontal Integration.' The Navy Department approached the concept of Horizontal Integration from two directions. On the one hand, it sought to retain former active duty personnel in the Naval Reserve by extending to them the same privileges they had enjoyed while on active duty. At the same time, it worked actively to provide the Naval Reserve with up-to-date equipment, including first-line frigates and aircraft."[62] In 1984, the CNO designated a flag-rank officer to serve not only as Director of Plans, Policy, and Strategy, but also as Total Force Advocate, overseeing a small staff established to evaluate and provide annual reports to Congress on force-mix issues.[63]

Between 1980 and 1989, commensurate with the growth of the fleet and the process of horizontal integration, Navy SELRES strength grew from 86,754 to 134,496. In the same period, the number of Training and Administration of the Reserve (TAR) personnel (later referred to as FTS) grew from 10,135 to 26,535.[64] Women Naval Reserve officers were incorporated into the TAR program, and TAR officers became eligible to command up to 20 percent of Reserve units, up from a traditional high of 8 percent.[65]

To meet the demands for experienced petty officers as the fleet expanded toward its goal of 600 ships, the Navy relied, in part, on voluntary recalls designed to draw prior-service sailors into the Reserves and then back onto active duty. To backfill the petty officers who went to the fleet, the Navy initiated the Sea/Air Mariner (SAM) program to attract new recruits to the Naval Reserve by offering tuition assistance. However, this program proved unsuccessful because its benefits and 6-year obligation compared unfavorably with Army and Air Force programs.[66] During this period, reservists received increased commissary and exchange privileges and full medical benefits throughout drill periods, including during travel to and from drills.[67]

In 1989, at the end of the Cold War, the Naval Reserve was oriented toward participating in a global war against the Soviet Union and its allies. Most Naval reservists were organized into augment units that focused on preparing for full mobilization. As late as 1992, augment units

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[61] Watters et al., *U. S. Naval Reserve: The First 75 Years,* 327.

[62] Ibid., 327–328.

[63] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends,* 4-6.

[64] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends,* 6-32, and data supplied by the Navy staff, OPNAV N9.

[65] Watters et al., *U. S. Naval Reserve: The First 75 Years*, 328.

[66] Ibid., 329.

[67] Ibid.

comprised 88 percent of SELRES manpower.[68] The reservists in those units were maintained to meet the wartime manpower requirements of active duty commands. As a later Chief of Naval Reserve described it, "The Old RC model was OPLAN support where you had a billet, with a job that linked to a COCOM and a flow of forces."[69]

3. Transition to Supporting Expeditionary Deployment: 1989–2001

"Persistent forward presence" describes the Navy's posture in the years following the end of the Cold War. In a statement before a House Subcommitee, Admiral Jonathan Greenert stated that the "Important qualities of our naval forces are their readiness to respond to crisis and persistent forward presence."[70] When the Cold War ended, the rationale for augment units and individuals diminished. Many of these units/individuals performed useful work, such as intelligence support and medical care, but some were in excess for the Navy's new mission that called for a fully ready Fleet. The new approach was to have need for "integrated Active and Reserve naval expeditionary forces shaped for joint littoral operations and diverse regional crises."[71] However, by 1996, about 65 percent of Naval Reserve personnel still remained in augmentation units.[72]

Even earlier, during the Cold War, the number of augment units was considered to be too great and too costly. The Ford Administration (in 1976) and the Carter Administration (in 1978) called for the Navy SELRES to be reduced from an authorized strength of 106,000 in 1976 to 52,000, including a reduction of Reserve Mobile Construction Battalions from 17 to 8. The Carter Administration's proposed budget for FY1980 set the SELRES strength at 48,700.[73] Reductions were to have been accomplished by moving Selected Reservists into other Reserve categories, such as the IRR, that did not receive drill pay. However, Congress did not approve the proposed reductions, and these efforts to reduce the Naval Reserve ended when the Soviet Union invaded Afghanistan in December 1979.[74]

The Naval Reserve participated significantly in Operation Desert Storm. "Between August 2, 1990, when Iraq invaded Kuwait, and August 22, when Reserve mobilization began, Naval

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[68] Richard Charles Mazza, "Naval Reserve: An Organization in Transition" (master's thesis, Naval Postgraduate School, 1992), 4–5, https://archive.org/stream/navalreserveorga00mazz/navalreserveorga00mazz_djvu.txt.

[69] "Interview with VADM John G. Cotton, Chief of Naval Reserve," *Naval Reserve Association News* 51, no. 9 (September 2004), 12, http://ausn.org/Portals/0/Services_pdfs/SEP-04-NRAN.pdf.

[70] "Statement of Admiral Jonathan Greenert, Chief of Naval Operations, Before House Armed Services Committee on the Impacts of a Continuing Resolution and Sequestration on Defense" (Washington, DC, 13 February 2013), 2, http://docs.house.gov/meetings/AS/AS00/20130213/100259/HHRG-113-AS00-Wstate-GreenertA-20130213.pdf.

[71] Department of Defense, "FY 96 Reserve Reduction Plan by Component," in "*FY 1996 Reserve Component Reduction Plan* (Washington, DC: Office of the Assistant Secretary of Defense for Reserve Affairs, 13 February 1996), http://www.dod.mil/pubs/reduction/report3.html.

[72] Ibid.

[73] Watters et al., *U. S. Naval Reserve: The First 75 Years*, 317–320, 325.

[74] Ibid., 318–320.

reservists were used primarily to augment the military sealift command to deploy active units to Southwest Asia (SWA). Without a formal call-up, the only available ways to meet this need were creative use of reserve training time and volunteers."[75] The Naval Reserve spent the weeks before August 22 preparing for deployment. The Navy cross-leveled personnel to fill deficiencies in mobilized reserve units and conducted pre-deployment training that included small arms refresher courses. On August 22, the President implemented Title 10 U.S. Code Section 673(b) and called up several Reserve units for a period of 90 days to support the deployment of forces, shipping, and security. Reserve medical personnel were called up to backfill U.S. medical treatment facilities, operate fleet hospitals, and expand the capacity of two hospital ships.[76] As DOD prepared to conduct the offensive operation, a second call-up of Naval Reserve units occurred. The total number of Naval reservists ordered to active duty for Operation Desert Storm was 19,423.[77] "Reserve units called up were able to carry out assigned wartime required operational capabilities."[78] While a large number of Naval Reserve personnel were called up, major combat units, such as Naval Reserve Force frigates and Reserve carrier air wings, were not called.[79]

In 1993, the DOD BUR called for significant reductions in the Services, including their RCs. Subsequently, in 1996, OSD published a RC Reduction Plan in which "Force structure adjustments were articulated in a broadly defined Active/Reserve restructuring plan shaped principally by the Bottom-Up Review."[80] The plan indicated that FY1996 was "the third year of a five-year force and infrastructure reduction effort,"[81] and that "the Naval Reserve, while smaller, will enhance its strength in providing support to virtually all naval missions."[82] The Active/Reserve restructuring plan projected the Naval Reserve authorized and funded end-strength at 96,000 in FY1999.[83] In

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[75] National Defense Research Institute, *Assessing the Structure and Mix of Future Active and Reserve Forces: Final Report to the Secretary of Defense – Executive Summary,* MR140/2-OSD (Santa Monica, CA: RAND Corporation, 1993), 44, http://www.rand.org/content/dam/rand/pubs/monograph_reports/2006/MR140.2.pdf.

[76] Ibid., 45.

[77] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends,* 9-28.

[78] National Defense Research Institute, *Assessing the Structure and Mix of Future Active and Reserve Forces*, 57.

[79] Ibid., 48.

[80] Department of Defense, "Fiscal Year 1996 Reserve Reductions Plan," in "*FY 1996 Reserve Component Reduction Plan* (Washington, DC: Office of the Assistant Secretary of Defense for Reserve Affairs, 13 February 1996), http://www.dod.mil/pubs/reduction/report1.html.

[81] Ibid.

[82] Ibid.

[83] Ibid.

fact, by the end of FY1999, total Naval Reserve strength was 89,172,[84] and, by the end of FY2000, this number was 86,933.[85]

4. AC-RC Integration in the Navy: 2001–2011

During the period 2001–2011, the Navy sought once again to integrate the Navy Reserve more effectively into the Active Navy. The change of name from "Naval" to "Navy" that occurred in 2005 was more than cosmetic and was intended to signify the new relationship. Earlier changes in the names of two major subcommands from Navy Surface Reserve Force to Navy Surface Force Reserve and from Naval Air Reserve Force to Naval Air Force Reserve also reflected that these Reserve elements were henceforth to be considered as intrinsic elements of the Navy Surface Force and the Naval Air Forces.

As will be discussed in the following paragraphs, subsequent analysis and decision making with regard to the AC-RC mix eliminated unnecessary billets, improved the force structure, and created the opportunity for additional analysis to determine the AC-RC mix that could provide the greatest capability within existing and looming budget constraints.

During this period, the first step toward integration was taken in 2002, when then-Vice Chief of Naval Operations (VCNO), Admiral William J. Fallon, and then-Assistant Secretary of the Navy for Manpower and Reserve Affairs, William A. Navas, Jr., (2001–2007) co-sponsored a year-long Naval Reserve Redesign Study. The study developed a plan of action for aligning the reserve force to complement the active force in support of the Navy Sea Power 21 strategy.[86] That study resulted in 14 specific action steps, as follows:

- establish flexible RC contracts to give personnel and commands more drill options;
- expand the Reserve recruitment base;
- execute Reserve integration into the Sea Warrior model;
- establish Reserve tours as part of an Active Duty career track;
- program FTS personnel to perform fleet tours;

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[84] Department of the Navy, *Highlights of the Department of the Navy FY 2001 Budget* (Washington, DC: Office of Budget, February 2000) 2–20, http://www.secnav.navy.mil/fmc/fmb/Pages/Fiscal-Year-2001.aspx. (On the web-site, under DEPARTMENT OF THE NAVY SUMMARY, click Budget Highlights Book.)

[85] Department of the Navy, *Highlights of the Department of the Navy FY 2002 Budget* (Washington, DC: Office of Budget, June/July 2001), A-3, http://www.secnav.navy.mil/fmc/fmb/Pages/Fiscal-Year-2002.aspx. (On the web-site, under DEPARTMENT OF THE NAVY SUMMARY, click Budget Highlights Book.)

[86] William A. Navas, Jr., "Integration of the Active and Reserve Navy: A Case for Transformational Change," *Naval Reserve Association News*, no. 5 (May 2004): 15, http://www.ausn.org/Portals/0/Services_pdfs/Integration_of_the_Active_and_Reserve_Navy-MAY04.pdf; phone conversations with Mr. James Grover, Office of the Chief of Navy Reserve.

- assign to the Fleet responsibility for Reserve Readiness and Training;
- assess Reserve Readiness;
- validate Naval Reserve Requirements with a Zero-Based Review (ZBR);
- identify Naval Reserve readiness and training issues;
- include Naval Reserve knowledge modules in the Active Knowledge continuum;
- establish a formal relationship between the Commander, Fleet Forces Command and the Commander, Naval Reserve Force;
- identify the Naval Reserve Role in supporting Sea Power 21;
- increase Office of the Chief of Naval Operations (OPNAV) N095 integration with OPNAV staff; and
- align Reserve non-prior service training and USN training under one organization.

A particularly important outcome of these actions was that Fleet Forces Command was given "the responsibility for identifying, validating, and communicating to CNR [Chief of the Navy Reserve] and CNRFC [Commander Navy Reserve Forces Command] those activities and functions in the operational Navy that require Reserve support."[87] Perhaps what is most important here is what is not said. In determining the required Reserve support, how would Fleet Forces Command analyze and assess the appropriate AC-RC mix? Who would determine the required Reserve support for the Navy's shore establishment?

The next major action taken by the Navy was to conduct the ZBR of Navy requirements to be filled by the Naval Reserve, as recommended by the Reserve Redesign Study. The ZBR was carried out in the context of the Navy implementing its Human Capital Strategy.

The Navy's implementation of its Human Capital Strategy in 2004 called for, among other things, "Active Reserve integration through the balancing of capabilities, skills, and experiences, and organizational alignment to facilitate Active ownership of the Navy's Reserve training, readiness, and operational support."[88] Assistant Secretary Navas, who initiated and guided the realignment of the Navy Reserve, found that surveys of the attitudes of Naval reservists throughout the era of the Total Force Policy revealed that "Few were ever satisfied to spend their weekends, and sometimes their two weeks of annual training, doing support functions that had little relevance to operational requirements. Our people are excited to see that the Navy is indeed committed to the full integration of active and reserve personnel. They want to make a meaningful contribution to the Navy mission and their nation."[89] Navas went on to say that, consequently, "The human capital management approach we have implemented is anchored in the premise that people want

[87] Ibid., 17.

[88] Ibid., 15.

[89] Ibid., 12.

to be trained for meaningful work and be given opportunities to serve where they are needed the most."[90] He observed further that "Balancing the Reserve and active mix is easing the stress placed on personnel assigned to duties in high demand, low availability occupations."[91]

RADM David O. Anderson, who headed up the ZBR, expressed similar thoughts when he said that his goal in accepting the assignment was "for every Naval Reservist to have a meaningful assignment in the future of the Navy."[92] Vice Admiral (VADM) John G. Cotton, Chief of Navy Reserve (CNR), expressed it this way. "All our Reservists want is a predictable mission. Every Reservist asks the same thing: When do you want me? Where do you want me? And, how long do you want me?"[93]

The ZBR conducted in 2003–2004 sought to validate Naval Reserve requirements and determine the ability of the Naval Reserve to provide the required capabilities needed to carry out Sea Power 21 warfighting requirements.[94] Sea Power 21 was the Navy's vision of the future. There were 61 required capabilities in that vision, and the study mapped all commands to those capabilities. Fifty-nine of the 61 capabilities resided within the Reserves.[95] All Navy Commands reviewed requirements from a zero base without any Reserve support and then considered the AC-RC mix. The ZBR was not constrained by existing directives, policies, or political considerations. The review encompassed 37 AC activities, 664 functions, and 79,000 RC billets.[96] Requirements for each claimant were reviewed by teams consisting of senior active and reserve officers and subject matter experts (SMEs). The results of each review were considered by a flag officer review board, and "the Chief of Naval Operations approved the zero-based review results for implementation in August 2004."[97] The overall result of this process was as shown in Table 6.

While the iterative process for the ZBR was highly disciplined and included a risk analysis feature, the Government Accountability Office (GAO) found it lacking in two major respects. The

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[90] Ibid., 15.

[91] Ibid.

[92] Steve Keith, RADM (USNR Ret.), "Zero Based Review," *Naval Reserve Association News* 51, no. 9 (September 2004), 30, http://ausn.org/Portals/0/Services_pdfs/SEP-04-NRAN.pdf.

[93] "Interview with VADM John G. Cotton," 16.

[94] U.S. Navy Message CNO 281441Z AUG 03, cited in Commander, Fleet Forces Command brief to Admiral Vern Clark, Chief of Naval Operations, August 2004.

[95] "Interview with VADM John G. Cotton," 10, 12.

[96] Commander, Fleet Forces Command, "Redesign of Naval Reserve, Fleet Forces Command Zero Based Review (ZBR) Results," brief to Admiral Vern Clark, Chief of Naval Operations (Norfolk, VA: Fleet Forces Command, August 2004).

[97] U.S. Government Accountability Office, *Force Structure: Assessments of Navy Reserve Manpower Requirements Need to Consider the Most Cost-effective Mix of Active and Reserve Manpower to Meet Mission Needs*, GAO-06-125 (Washington, DC: GAO, October 2005), 6, http://www.gao.gov/assets/250/248203.pdf.

GAO concluded that the Navy's approach of using capability gaps in the active force as the

Table 6. Results of ZBR

	RC Billets	AC Billets	Civilian Billets
Billets Created	4,202	2,623	450
Billets Divested	20,220	1,741	
Net Change	(16,018)	882	450

Source: Commander, Fleet Forces Command, "Redesign of Naval Reserve, Fleet Forces Command Zero Based Review (ZBR) Results."

means of determining Navy Reserve manpower requirements was too narrow and did not provide assurance that the Navy would have the most cost-effective mix of Active and Reserve forces. The GAO said that using outdated mission documents as the baseline substantially reduced the assurance that Navy activities started with the best data for making manpower assessments.[98] Perhaps as a result of this GAO review, a requirement to improve the manner in which the Navy and the other Services assess and structure their AC-RC mixes was inserted in the FY2012 National Defense Authorization Act, which required the Secretary of Defense to submit a report on the DOD ACs and RCs, describing unit costs, force mix, demand for forces, and readiness.[99]

In 2004, Assistant Secretary Navas described how lessons learned from responding to requirements for the wars in Iraq and Afghanistan and fighting the Global War on Terrorism (GWOT) after September 11, 2001, provided the stimulus for increased AC-RC integration.[100] Two major lessons were learned from the mobilization of the Navy Reserve to support the GWOT. The fact that only about 23,000 of 87,000 reservists were activated indicated "that the Navy has managed its Reserve personnel resources in a prudent and judicious manner, mobilizing personnel only when absolutely necessary and using volunteerism to the maximum extent possible."[101] Navas acknowledged, however, that "shortages in personnel within certain specialties, such as intelligence and security/force protection, highlight the fact that a good portion of our force was out of balance with current needs."[102] He pointed out that the right metric for measuring the contribution of the Reserves was not the number mobilized, but "rather how many are providing operational support to the fleet."[103]

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[98] U.S. Government Accountability Office, *Force Structure*, 14.

[99] National Defense Authorization Act for Fiscal Year 2012, Public Law 112-81, Title X, *General Provisions*, Section 1080A, 125 Stat. 1598, December 2011, http://www.gpo.gov/fdsys/pkg/PLAW-112publ81/pdf/PLAW-112publ81.pdf.

[100] Navas, "Integration of the Active and Reserve Navy," 14.

[101] Ibid.

[102] Ibid.

[103] Ibid., 15.

A former CNR, VADM Cotton, was even more critical when he described existing imbalances in the Reserves and the lack of AC and RC integration:

> We had people who were not aligned. We had people who were in the Navy Reserve but weren't in the Navy. They weren't providing value. And we had a structure in some places that was just consuming taxpayer money. They had no desire to go do Fleet work, as they were very Reserve Center centric. We had to change that. It was not only internal, but also it was mostly external to get the Navy to have us to be part of the team.[104]

When VADM Cotton spoke of aligning people, he made two other important observations. He recognized that organizing and planning were not just about the present or near term. He recognized that the Navy of the future would be smaller and that it would have different capabilities and platforms. In his estimation, alignment with future requirements was critical.[105] More basically, he agreed with the CNO, Admiral Vern Clark, that "any organization greater than 20 people is never aligned. It's a constant challenge just day-to-day to try to align. So alignment is a process."[106] This view has been carried forward, though incompletely, in the conduct of a Reserve Capability Review (RCR) every 2 years, starting in 2008, by Commander, Fleet Forces Command and Commander, U.S. Pacific Fleet. Perhaps most importantly, acknowledging that the alignment of the AC and RC mix is an ongoing and unending process highlights the need for robust analytical tools to facilitate that ongoing process.

Consistent with the Redesign Study and the ZBR, the Secretary of the Navy, the CNO, and the Commandant of the Marine Corps designated creating "a more responsive and integrated Reserve Component"[107] as the number 3 goal for the Department of the Navy in 2004. The elements of this goal were as follows:

- Define the 21st century Reserve Force Structure.
- Determine AC/RC force structure and mix that supports the Fleet Response Plan (FRP), Flexible Deployment Concept and Global Concept of Operations (CONOPS), and new Navy missions such as Anti Terrorism/Force Protection (AT/FP).
- Implement the redesign of Naval Reserve to
  - establish common training and readiness standards for regular and reserve forces,
  - improve reserve access to current equipment and tactics, and
  - optimize command and headquarters relationships between regular and reserve forces.[108]

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[104] "Interview with VADM John G. Cotton," 17.

[105] Ibid.

[106] Ibid., 11.

[107] Ibid., 10.

[108] Ibid.

Since 2004, progress has been made in achieving the elements of this goal, but that progress has been uneven, particularly with regard to achieving integration in a strategic sense. Determining the most effective and affordable AC-RC mix would seem to require a Navy-wide strategic plan for use of the Reserve and an analytical process for assessing potential mixes. A CNO Executive Panel (CEP) is currently considering both of these issues.

Subsequently, between 2004 and 2011, the Navy reduced its SELRES strength from 68,440 to 54,288 and its FTS manning from 14,118 to 10,504. During the same period, the Navy reduced its Active strength from 373,197 to 325,123.[109] In testimony to the Congress in 2011, then CNR VADM Dirk J. Debbink described the means by which the Navy Reserve reduced its size:

> While we have become more operational, we have also become a smaller and more cost-effective force. Throughout the post-9/11 era, the Navy Reserve has pursued efficiencies while increasing our capabilities. We have eliminated staff and organizational redundancies wherever possible, leveraging the Navy's schools, bases, organizations and information technology infrastructure. We have honed our staff overhead to approximately 3,000 Sailors who serve and enable the remaining 62,000 Sailors of our Navy Reserve to contribute directly to active Navy commands.[110]

When VADM Debbink spoke of leveraging resources, he was talking about the Navy RC making more use of the existing AC infrastructure. An additional example of this integration of the AC and RC in the context of the Total Force was the consolidation of the Active and Reserve Recruiting Commands in 2004.[111]

In a memorandum dated 21 February 2008, the CNO sought to institutionalize the operational Navy Reserve.[112] The memo designated the VCNO to direct and oversee changes to existing Navy structure and alignment. The stated goal was to "Integrate total Navy structure with an RC that provides relevant capabilities for strategic depth, and predictable, periodic Operational Deployment in support of Navy missions."[113] The CNO also directed, in the same memorandum, that the Deputy CNO (Manpower, Personnel, Education, and Training) (N1), in collaboration with Commander, Fleet Forces Command, conduct a reserve capability assessment with follow-on recommendations for alignment and restructuring. The memo specified that Commander, Fleet

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[109] Department of the Navy, *Highlights of the Department of the Navy FY 2013 Budget* (Washington, DC: Office of Budget, February 2012), 3-5, http://www.secnav.navy.mil/fmc/fmb/Pages/Fiscal-Year-2013.aspx. (On the web-site, under DEPARTMENT OF THE NAVY SUMMARY, click Budget Highlights Book.).

[110] *Department of Defense Appropriations for Fiscal Year 2012, Before the U.S. Senate, Subcommittee of the Committee on Appropriations,* Wednesday, 11 May 2011 (statement of VADM Dirk J. Debbink), 62, http://www.appropriations.senate.gov/sites/default/files/hearings/05_11_2011%20Defense%20National%20Guard%20%26%20Reserve%20Budget%20GPO%20Record.pdf.

[111] Ibid., 72.

[112] Chief of Naval Operations, "Tasking Assignments to Institutionalize the Operational Navy Reserve," Memorandum Ser N00/100009 (Washington, DC: Department of the Navy, 21 February 2008).

[113] Ibid.

Forces Command, in collaboration with Commander, U.S. Pacific Fleet, would conduct a reserve capabilities review of fleet forces. The memo further directed CNO N1 to conduct a reserve capabilities review of all other reserve capabilities … those not a part of fleet forces.[114] Commander, Fleet Forces Command and Commander, U.S. Pacific Fleet conducted the initial review of fleet forces in 2008 and 2009 and follow-on reviews in 2010 and 2012. Their reviews have covered the Reserve Force billets for which they are responsible as the Budget Submitting Offices (BSOs). The RCRs assess billet requirements based on whether they are

- a strategically required (combatant command (CCMD) OPLAN, contingency plan (CONPLAN), required operational capability/projected operational environment (ROC/POE));[115]
- a strategically responsive (mobilizations, active duty for special work (ADSW)); or
- an operationally relevant (annual training (AT), active duty for training (ADT) on orders. Man-days of support provided).

The process draws on information derived from personnel orders (locations, billet identification, and work center descriptions) to model the behavior of the Reserve force. Using formulas and established metrics to reflect actual Reserve employment, billets are determined to be valid or not valid. As a result of the analysis, strength authorizations are moved from invalid or lower priority billets to meet higher priority requirements, including new capability requirements.[116]

The RCR of 2008 analyzed 140 unit types and capabilities. Of those, 130 were considered valid, and 10 were considered not valid. Thirty-four unit types (24 percent) were evaluated as operational capabilities only, 76 types (54 percent) were considered strategic and operational, and 20 types (14 percent) were considered strategic only. The review validated seven new capabilities, including Navy Cyberspace Operations and Broad Area Maritime Surveillance Unmanned Aircraft System (BAMS UAS). The review identified staff capabilities that could be disestablished, with personnel assets moved to combat support. Overall, the review identified 194 officer billets and 910 enlisted billets that could be reassigned to higher priority capabilities.[117] The 2010 RCR identified 118 officer billets and 300 enlisted billets that could be reassigned to higher priority capabilities.[118]

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[114] Ibid.

[115] U.S. Fleet Forces Command. Briefing. "USFF N1R Reserve Support." Updated August 2012.

[116] Al Gonzalez and Maureen Kleintop, "Reserve Capabilities Review Implementation Plan," briefing to U.S. Fleet Forces N1, 17 August 2009; conversations with Captain Rey Consunji, Director, Fleet Operational Support Office, Commander Fleet Forces Command, August 2012 to January 2013.

[117] Gonzalez and Kleintop, "Reserve Capabilities Review Implementation Plan."

[118] U.S. Fleet Forces Command N1/US Pacific Fleet N1, "Reserve Capabilities Review (2010) – Final Brief," n.d.

With regard to Active and Reserve integration, one group of Reserve personnel that deserves particular attention is the FTS community. An N81-sponsored[119] AC-RC assessment conducted in 2011 addressed the number of FTS personnel and concluded that approximately 3,200 FTS personnel are required to train and administer the Navy RC. The other 7,304 FTS personnel are assigned to fill other operational and strategic requirements throughout the Navy. The study was unable to determine the rationale or process for many of these assignments. Some RC-unique capabilities, such as Navy Expeditionary Combat Command (NECC) and fleet logistic support squadrons, account for a portion of these personnel but do not account for the remaining FTS personnel. Discussions with various SMEs led to the conclusion that FTS personnel are used to fill AC Navy billet shortfalls based on the notion that FTS personnel are deemed by the AC to be "free labor."[120] This use is important because the N81 study also found that FTS personnel account for half the Reserve Personnel Navy (RPN) budget.[121] Efforts to identify the various specific functional areas in which FTS personnel serve and the numbers of personnel assigned in each area have been only partially successful. It bears noting that from the RC perspective, having FTS personnel serve alongside AC personnel in operational billets brings credibility for the Reserves in the eyes of the AC and provides relevant training and operational fleet experience to FTS officers. In fact, several RC flag officers are currently serving in non-traditional RC billets on major staffs.

5. Current Relationship of the Navy Reserve and the Active Navy: 2012–2013

The Navy AC-RC mix continues to evolve. The N81 study conducted in 2011 found that over the past 10 years of routine use in support of OIF/OEF, the strategic nature of RC use had evolved. The Navy Reserve was able to provide drilling reservists for general-purpose operational support during recent campaigns due to the availability of Overseas Contingency Operations (OCO) funding. However, this funding will not be available without supplemental funding, and AC guidance documents that govern specific RC employment policies are available.[122] The study, drawing on work done by the Center for Naval Analyses, found that the Navy Reserve is moving away from a platform-centric focus to a focus on capabilities. In effect, the Navy Reserve has shifted from a system in which Reservists were expected to deploy with the unit in which they drilled to a system in which most Reservists can expect to be mobilized as individuals to augment gaining commands.[123] In fact, as of July 2011, nearly 70 percent of personnel in RC units were in

[119] N-81 is the CNO's Assessment Division.

[120] Office of the Chief of Naval Operations (N81), *Active Component (AC) Reserve Component (RC) Assessment: Shaping the Navy's Reserve Component for the Future Operating Environment* (Washington, DC: Department of the Navy, 30 December 2011), 10–11, FOR OFFICIAL USE ONLY.

[121] Ibid., 35.

[122] Ibid., 36.

[123] Ibid., 24.

Augment Units and, if mobilized, would become part of a gaining unit rather than keeping their Reserve unit identity.[124]

With regard to establishing RC requirements, the N81 study found that the requirements process defined by the Chief of Naval Operations[125] is ambiguous about coordination with the AC to determine RC requirements.[126] The study pointed out that few decision points or authorities are identified to establish RC requirements and that a lack of clarity exists on responsibility and the sequence of events in the RC requirements determination process.[127] The study concluded that "An overarching RC employment strategy does not exist."[128]

The lack of an AC-authored strategy for RC employment does not mean that the AC-RC mix for the various Navy capabilities and communities cannot be explained. Then-CNR VADM Debbink testified to the Congress in 2011 that

> Today's Navy Reserve provides both strategic depth and operational capabilities. Depending on the mission, we mirror or complement the AC. We mirror the AC and provide rotational forces for those missions where it makes operational and fiscal sense. We complement the AC by providing unique capabilities in other areas, such as in the Intra-Theater Fleet Logistics Support, Counter-Narcotics Surveillance, and Navy Special Warfare Helicopter Support missions. The correct AC/RC mix varies with each of Navy's wide variety of missions and required capabilities. As new missions emerge and current missions evolve, AC/RC mix solutions are carefully and continually examined.[129]

Thus, while there is no overarching strategy for RC employment, there is a rational approach to integrating RC and AC elements based on mission, required capabilities, and patterns of employment.

The N81 study confirmed GAO's earlier finding that the Navy basis for analyzing its AC-RC mix is too narrow. The study reported that "The requirement for an operational reserve has not been defined or quantified within the Navy RC nor have the costs of this concept beyond overseas contingency funding been assessed."[130] It further observed that "The degree to which these forces

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[124] Ibid., 18.

[125] Department of the Navy, "Navy Total Force Manpower Policies and Procedures," OPNAVINST 1000.16K, CH-1(Washington DC: Office of the Chief of Naval Operations, 4 October 2011), http://doni.daps.dla.mil/Directives/01000%20Military%20Personnel%20Support/01-01%20General%20Military%20Personnel%20Records/1000.16K%20CH-1.pdf.

[126] Office of the Chief of Naval Operations (N81), *Active Component (AC) Reserve Component (RC) Assessment,* 37.

[127] Ibid.

[128] Ibid.

[129] *Department of Defense Appropriations for Fiscal Year 2012* (statement of VADM Dirk J. Debbink), 62.

[130] Office of the Chief of Naval Operations (N81), *Active Component (AC) Reserve Component (RC) Assessment,* 35.

[strategic and operational] exist in the RC was not able to be quantified by unit or capability during the course of this study."[131] The study attempted to examine a breakdown by capability of SELRES and FTS work years but found that it was "difficult to discern the degree to which these RC capabilities exist and how they compliment [*sic*] the AC."[132]

With regard to the ability of the Navy to structure the RC and achieve a specific AC-RC mix, the N81 study, based on a survey of SMEs, reported that the BSO process is decentralized to unit-level management for specific jobs across the force resulting in tactical management of RC resources. This situation makes it "difficult for senior leaders to change or influence the force structure when authority (ability) to shape has been significantly decentralized or delegated down."[133] The study survey found that "There appears to be a lack of AC ownership in [the] RC requirements development process."[134]

The situation in the Navy today is that individual BSOs determine the AC-RC mix for their particular capabilities and establish the force structures for which they have responsibility. Discussions with uniform and civilian leaders in various Navy offices indicate a void when it comes to advocating and planning for the Navy's Total Force. Furthermore, discussions with AC personnel with regard to the Total Force focus solely on the AC and RC, and analysis at any level does not generally consider civilians, whether government employees or contractors.

In the period 2001–2008, Assistant Secretary Navas established the Force Management Oversight Council (FMOC), comprised of the AC and RC Personnel Chiefs, the Surgeon General, and the Civilian Personnel Office, to provide a clear direction on Human Capital Strategy and personnel policies at the Secretariat level. The purpose was to raise visibility in the budget and policy arenas of Total Navy (AC, RC, civilian, contractor) personnel issues.[135]

In a more recent effort to fill the void, at least with regard to the AC and RC portions of the Total Force, the CNR recommended to the CNO in April 2012 that action be taken to develop an AC-authored RC employment strategy that would align RC employment strategy, force structure, and readiness investment decisions; give the size and shape the RC force based on the developed strategy; include AC-RC mix tradeoffs in annual program reviews; and ensure that platform requirements accommodate the RC employment strategy.[136]

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[131] Ibid., 19.

[132] Ibid.

[133] Ibid., 29.

[134] Ibid., 30.

[135] William A. Navas, Jr., e-mail message to the authors, 11 January 2013.

[136] Chief of Navy Reserve, "Navy Reserve Support to Navy," briefing, 30 April 2012, FOR OFFICIAL USE ONLY.

C. Evolution of the AC-RC Mix in the Navy

The following subsections address the former Naval Surface Force Reserve, the National Defense Reserve Fleet (NDRF), the Naval Air Force Reserve, the Navy Reserve Expeditionary Combat Units, the Naval Special Warfare Command, and Reservists funded by the Navy's Resource Sponsors.

1. Naval Surface Force Reserve

During the Cold War and thereafter, numerous efforts by the Navy to have a viable Naval Reserve Force with ships manned entirely or partly by reservists were never very successful. The major problems were that regular lengthy deployments extend well beyond available training days and that ships cannot be maintained adequately with part-time crews and inadequate funding. These issues were not major concerns when the mission was to renovate and activate ships kept in stand-by status, but they became evident when the idea was to keep Reserve ships in active status. Since it was not always feasible for an entire unit to augment a ship, it was decided to reorganize units as "surface Reserve divisions." Although the Reserve divisions drilled and trained together, each member of the division had an individual mobilization billet corresponding to the needs of the fleet.[137]

Before 1970, active ships were not manned in peacetime at full wartime complements, and Selected Reservists were designated to augment crews in the event of mobilization for war.[138] The total number of Reservists assigned to augment the crew of active Navy ships dropped dramatically as the number of active ships dropped—from 932 in 1968 to 523 in 1977.[139] In the 1970s, the Navy established the goal of fully manning all surface combatants with AC personnel by 1985. This eliminated the need for Navy Reserve units to augment active ship manning. For a time, the Naval Reserve would still be needed to man ships activated upon mobilization.[140]

In the post-Cold War era, when the intention is to have fully manned ships rotated forward on a regular basis in support of CCMD requirements, there is no practical need to assign SELRES personnel to augment ship crews. Likewise, there is no requirement for Reservists to augment active ship crews upon mobilization.

The following is a brief summary of the Navy Surface Force Reserve in the post-WW II era. After WW II and through the 1950s, about 70 ships were assigned to the NRF.[141] In the 1960s, the NRF had many older destroyers, escorts, and non-blue-water small craft that were assigned to the Naval District Commanders. The condition of these ships had deteriorated because "it was a

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[137] Mazza, "Naval Reserve: An Organization in Transition," 26.

[138] Watters et al., *U. S. Naval Reserve: The First 75 Years*, 315.

[139] Naval History and Heritage Command Website, "U.S. Ship Force Levels, 1886-Present," http://www.history.navy.mil/research/histories/ship-histories/us-ship-force-levels.html.

[140] Watters et al., *U. S. Naval Reserve: The First 75 Years,* 315.

[141] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends*, 7-5.

frequent Navy practice in the mid-to-late 1960s to divert funds earmarked for Reserve ship rehabilitation to support active units operating in the Gulf of Tonkin."[142] "The last Reserve Force submarine was stricken in 1973."[143] By 1975, the NRF consisted entirely of WW II-era destroyers (33) and mine warfare ships (28).[144] Reserve minesweepers provided "virtually the entire Navy's mine countermeasure (MCM) capability."[145]

In late 1970, NRF destroyers were placed under the Fleet Commanders and provided fully funded maintenance budgets, unlike the older escorts and destroyers that belonged to the Reserve commanders.[146] After the adoption of the Total Force Policy in 1973, "the Navy, with Congressional support, initiated a program to replace the deteriorated and obsolete ships in the NRF with front-line combatant, amphibious, auxiliary, and mine warfare ships."[147] The Navy also decided to focus on a "hardware-oriented Naval Reserve." Resources were devoted to NRF ships and aircraft along with the tools and equipment necessary for Reservists to train in shipyards and on naval bases. Reservists would support ships and aircraft. Other functions, such as public affairs, information security, and naval control of shipping, were deemphasized.[148]

In the 1980s, the Navy made several changes to bolster the NRF. Initially, 12 WW II Fleet Rehabilitation and Modernization (FRAM) I destroyers were replaced with newer *Knox* class 1052 frigates, and, starting in 1985, the Navy added new FFG-7 *Oliver Hazard Perry* class guided missile frigates to the NRF. By 1989, all FRAM I destroyers had been retired, and the NRF had 7 *Knox* class and 15 *Perry* class frigates.[149] Early in this transition, these frigates were manned at about 65 percent by active duty personnel and 35 percent by SELRES personnel and provided Naval reservists an opportunity to gain experience on modern equipment and systems.[150] In 1989, the Navy Surface Reserve Force operated 45 ships, including 22 frigates and the entire Navy capability for mine warfare. Table 7 shows the numbers and types of ships in the NRF since 1989. The AC ship numbers are also shown to provide an idea of the extent to which the Navy relied on NRF ships.

After 1993, the difficulties of maintaining the NRF ships with part-time crews and the declining number of ships in the Navy led to significant reductions in the NRF. Despite sporadic

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[142] Ibid.

[143] Ibid.

[144] Ibid.

[145] Ibid., 7-6.

[146] Watters et al., *U. S. Naval Reserve: The First 75 Years*, 305–307.

[147] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends*, 7-5.

[148] Watters et al., *U. S. Naval Reserve: The First 75 Years*, 314–315.

[149] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends*, 7-36.

[150] Ibid., 7-6.

efforts to assign various ships to the NRF, the numbers and types of NRF ships declined. Today,

Table 7. NRF Ships

Ship Information	1989	1993	1997	2001	2005	2009	2013	2017
Total Active Ships	592	454	359	316	282	285	285	285
NRF Ships								
CV (Aircraft Carrier)			1					
FF (Frigate)	7	8						
FFG (Guided Missile Frigate)	15	16	10	8	9	9	8	0
LST (Landing Ship Tank)	2	2	2					
ARS (Salvage Ship)	3	2						
MSO (Minesweeper, Ocean)	18	5						
MCM (Mine Countermeasures Ship)			4	4	5			
MHC (Mine Hunter, Coastal)				1	1			
MCS (Mine Countermeasures Support Ship)			1	1				
Total	**45**	**33**	**18**	**14**	**15**	**9**	**8**	**0**

Sources: Data compiled from Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends*, 7-36; SECNAV Website, "Department of the Navy: Budget Materials—Budget Highlights Books 1997–2015," http://www.secnav.navy.mil/fmc/fmb/Pages/Fiscal-Year-2016.aspx (On the website, click on the desired year and then under DEPARTMENT OF THE NAVY SUMMARY, click Budget Highlights Book); Naval History and Heritage Command Website; and information provided by OPNAV N91, Navy Ship Construction.

only one FFG of the *Perry* Class remains in the NRF. Manned by AC and FTS personnel, the FFGs have been part of the Navy's Battle Force (assigned to the Fleet Forces Command) and have conducted operations in the same manner as other active Navy ships. The last of these FFGs, the *USS Kauffman*, will be decommissioned in September 2015.[151]

In addition to the Battle Force ships shown in Table 7, ships in other categories provide logistic support for the joint forces.

2. National Defense Reserve Fleet (NRDF)

MARAD, under the U.S. Department of Transportation (DOT), manages and maintains the fleet of inactive, Government-owned vessels in the NDRF, including the Ready Reserve Force

[151] The NRF FFGs are shown are shown as such in Table 7 and also in the AC ship total because they were really AC ships. The IDA research team found few officers, aside from those who have served on the Reserve ships, who knew that these Reserve ships still existed; and the team was unable to obtain any official statement as to why they did still exist. However, in recent years, in talking to officers associated with those ships, it appears that their classification may have been strictly for budgetary reasons. O&M money could be provided for them by Reserve (Operation and Maintenance, Navy Reserve (OMNR) funds) and then turned over to the Surface Force Type Commanders. This money could then be added to the overall pool of funding available to operate and maintain all ships, thereby providing the Navy the resources to operate more ships in the Battle Force than it otherwise could.

(RRF).[152] Section 11 of the Merchant Ship Sales Act of 1946 established the NDRF to serve as a reserve of ships for national defense and national emergencies. The NDRF, at its height in 1950, had 2,277 ships.

Today, the NDRF provides a ready source of surge shipping that is available when needed by the DOD's Transportation Command (TRANSCOM) to support rapid deployment of U.S. military forces. All NDRF activities, including the RRF, are funded from appropriations transferred to MARAD from the Navy's National Defense Sealift Fund in accordance with a 1997 Memorandum of Agreement (MOA) between MARAD and TRANSCOM. As of 31 October 2012, the NDRF had 136 vessels.

In 1976, an RRF component was established to provide rapid deployment of military equipment. The Ready Reserve Fleet later became the Ready Reserve Force (i.e., RRF), which as of 31 October 2012, comprised 46 of the ships in the NDRF. The RRF is the AC of the NDRF and provides ships for surge and sustainment sealift capability for all of the Services. These ships include Heavy Lift (T-AK), Roll-On/Roll-Off (T-AKR), Aviation Maintenance Logistics Ships (T-AVB), Auxiliary Crane Ships (T-ACS), Modular Cargo Delivery System Ships and Lighter Aboard Ships (T-AK), and Tankers (T-AOT). The ships are maintained by MARAD in ports on all three U.S. coasts, within a short sailing distance of strategic load-out ports. Nearly all of the ships are in Reduced Operational Status 5 (ROS-5) and partially crewed with 8 to 10 civilian mariners who form the nucleus of the sailing crew. In ROS-5, they are required to be ready for sea within 5 days. The remaining RRF ships are in Ready Reserve Force 10 (RRF-10) at NDRF sites and have maintenance performed on a cyclical basis. These ships are required to be ready to sail within 10 days. When activated, RRF ships are placed under the control of the Navy's Military Sealift Command (MSC).

MARAD also maintains the inactive component of the NDRF. The 92 ships currently in this fleet are not crewed and have no constant level of maintenance. No more than 8 or 10 of these ships are in condition to be surged as part of a strategic reserve.

To provide naval officer support to MSC for the RRF, the Navy established the Strategic Sealift Officer Program (SSOP), which has approximately 1,700 officers. These officers (with officer designator 1665) comprise a managed IRR community and are not SELRES personnel. They make up more than 10 percent of the Navy's IRR. However, they mimic the SELRES in training and readiness, performing 12 days of active duty for training each year. The program allows sailing merchant mariners, who are not available for regular Reserve drill periods and who are almost all graduates of the various merchant marine academies, to support Navy requirements for which they are uniquely qualified. In addition to the Strategic Sealift Officers in the IRR, about

[152] Information in this subsection is taken from the United States Maritime Administration (MARAD) Website, "U.S. Department of Transportation, Maritime Administration, "National Defense Reserve Fleet Inventory for the Month Ending October 31, 2012" (Division of Sealift Operations (MAR-612), 9 November 2012, http://www.marad.dot.gov/wp-content/uploads/pdf/i121031.pdf); *Seapower* 55, no. 11 (November 2012); and conversations with personnel at the Maritime Administration and Navy Reserve Forces Command.

260 Strategic Sealift Officers are in SELRES billets. One hundred and twenty-one of those billets are designated for Strategic Sealift Officers, and most of the Strategic Sealift Officers in the SELRES support MSC.

As merchant mariners, Strategic Sealift Officers come from the nation's maritime schools. MARAD has an MOA with the Navy by which the Navy provides an annual quota of required new ensigns (about 200 each year) and MARAD then fills that quota with graduates of the maritime schools. The primary source is the United States Merchant Marine Academy, which comes under the auspices of MARAD. Graduates of the Merchant Marine Academy are required to accept a commission in the Navy, one of the other armed Services, the Coast Guard, or the National Oceanic and Atmospheric Administration (NOAA) and have an 8-year Reserve commitment. Thus, 90 to 95 percent of the new Strategic Sealift Officers come from that source. Most of the remainder come from the six state maritime schools, where many of the students have received scholarships under the Student Incentive Payment (SIP) program that requires them to incur a military obligation. A handful of new officers, perhaps one or two a year, receive direct commissions.

With the exception of the newly commissioned ensigns, Strategic Sealift Officers serve 12 days of active duty at AC commands and perform regular operational duties. Newly commissioned ensigns attend the SSOP's Ensign Post Commissioning Indoctrination at the Navy Operational Support Center (NOSC) in Norfolk, Virginia, where they learn basic Reserve administration.

In addition to crewing ships called up to provide surge capability, Strategic Sealift Officers conducting ADT provide operational support afloat and ashore. The Navy writes about 1,100 sets of ADT orders each year that send Strategic Sealift Officers to approximately 100 gaining commands. The officers serve in MSC regional offices, manage port engineering projects, provide pilot services, and act as port operations officers.

The Strategic Sealift Officer program provides an attractive model for using personnel who have unique and much-needed talent but without the requirement of regular drills. These officers are using their special skills on a daily basis in their civilian jobs. This approach is an extremely cost-effective way for the Navy to employ the talents of these officers, but the program has the disadvantage, theoretically, of depending on individuals to volunteer for IA assignments. However, as shown by the history of Desert Storm and other contingencies, officers have stepped forward when needed. This finding is entirely consistent with those of earlier studies—that reservists are motivated by patriotism and are anxious to provide meaningful service when the opportunity arises.

3. Naval Air Force Reserve

The Naval Air Force Reserve originated in 1946 as the Naval Air Reserve Training Command. The primary mission of this command was to train Naval Aviators and other specialties. In due course, the mission evolved and began to focus on providing aircraft and Naval Aviators and

Naval Flight Officers (NFOs) to the fleet. In 1970, the name was changed to the Naval Air Reserve Force, and in 1973 it was established as a separate command. The name was changed in 2002 to be the Naval Air Force Reserve.

In 1970, a GAO study found that the Naval Reserve aircraft called up (but not deployed) in response to the *Pueblo* incident lacked a capability for carrier and combat operations. At this time, the Navy was in the process of equipping CNARF with aircraft that were capable of deploying with the fleet.[153] In 1970, two Reserve Carrier Air Wings and two Reserve Carrier ASW air groups were established. In 1976, the Reserve ASW air groups were disestablished because of the decommissioning of the last ASW carrier.[154] "By the mid-to-late 1980s, horizontal integration of Reserve and Active forces was put into practice as modern aircraft were assigned to RC units, sometimes before they were assigned to AC units.[155]

During the Cold War, CNARF operated a large number of aircraft, trained Naval Aviators and NFOs, and operated several Reserve Air Stations. In 1989, CNARF operated 373 aircraft and provided a full range of aviation capabilities to the Navy. In 1992, CNARF had 2 carrier air wings, 13 patrol squadrons, 13 fleet logistics support squadrons, 2 fighter composite service squadrons, and 9 helicopter squadrons and a large number of smaller support and augmentation units. CNARF provided 100 percent of the Navy's capability for fleet logistics and service support and a significant fraction of its operational capability in other areas.[156]

In the years since 1989, the number of aircraft for the AC and the RC has declined as shown in Table 8. The number of aircraft continued to decline even during the Iraq and Afghanistan war years following the terrorist attacks of September 11th.

Table 8. Navy Assigned Aircraft: 1989–2017

	1989	1993	1997	2001	2005	2009	2013	2017
Total Active	2,476	2,144	1,607	1,582	1,357	1,457	1,331	1,355
Total Reserve	373	365	280	231	199	174	156	157

Source: Data have been extracted from the U.S. Navy's Aircraft Inventory Readiness Reporting System (AIRRS). See Acquisition Community Connection Website, "Aircraft Inventory & Readiness Reporting System (AIRRS)," last modified September 24, 2013, https://acc.dau.mil/CommunityBrowser.aspx?id=530627.

The number of Reserve wings has declined from 6 in 1989 to 2 in 2013, and the number of squadrons has diminished from 61 to 25, as shown in Table 9.

[153] Watters et al., *U. S. Naval Reserve: The First 75 Years*, 308.

[154] Chaloupka, Watters, and Borges-Subois, *U. S. Naval Reserve: Survey of Historical Trends*, 8-7.

[155] Ibid.

[156] Ibid.

Table 9. Naval Air Force Reserve Squadrons: 1989–2017

Squadrons	1989	1993	1997	2001	2005	2009	2013	2017
Attack	10	5	1	1	1	1	1	1
Fighter	6	10	5	5	4	4	4	4
Patrol	13	13	8	7	6	2	2	2
Rotary Wing	9	7	10	7	7	5	5	5
Transport*	14	14	14	14	14	17	14	13
Utility†	7	8	6	5	5	5	0	0
Warning	2	3	3	2	1	1	1	0
Total	**61**	**60**	**47**	**41**	**38**	**35**	**27**	**25**

Source: Data have been extracted from the U.S. Navy's Aircraft Inventory Readiness Reporting System (AIRRS). See Acquisition Community Connection Website, "Aircraft Inventory & Readiness Reporting System (AIRRS)."

*Includes two Executive Transport Detachments as of October 2006.

†Individual Bases with 1 or 2 Aircraft.

Currently, the Navy Air Force Reserve is composed of the following:

- One tactical support wing with two Adversary Squadrons that fly F-5 aircraft, Electronic Attack Squadron VAQ-209 that flies the EA-6B, and two squadrons that fly the F/A-18 as adversary squadrons. One F/A-18 adversary squadron, VFA-204, also acts as a strategic reserve.
- One logistic support wing provides 100 percent of the Navy's intra theater fleet logistic support with 12 VR Squadrons and 2 Executive Transport Detachments. The VR squadrons are manned with a combination of SELRES and FTS personnel.
- Two helicopter squadrons with the HH-60H aircraft that support USSOCOM.
- One helicopter squadron that flies the SH-60B Lamps III helicopter, which deploys in surface combatants and is also used in counter-drug operations.
- Two VP patrol squadrons flying P-3C aircraft.
- Two blended AC-RC HM squadrons, with approximately 400 AC personnel and 250 RC personnel, fly the MH-53E helicopter to conduct minesweeping operations and carry cargo in support of humanitarian relief missions.
- Eight Fleet Replacement Squadron Augment Units (SAUs) with 450 RC personnel and another 340 RC personnel in Chief of Naval Air Training (CNATRA) units. FTS and SELRES aviators serve as "instructors for 20 percent of the training sorties flown in Navy's aviation training pipeline."[157]

[157] *Department of Defense Appropriations for Fiscal Year 2012* (statement of VADM Dirk J. Debbink), 60.

4. Navy Reserve Expeditionary Combat Units

A significant portion of the Navy Reserve serves in the NECC. Established in 2006, the NECC is the Navy Type Commander (force provider) for integrated maritime expeditionary missions. The FY2013 end-strength mix of NECC military personnel was projected to be 11,331 AC and 15,180 RC personnel.[158] AC personnel in the NECC comprise only about 3.6 percent of the total Navy AC strength, while RC personnel comprise about 25 percent of the NRF strength. "The Navy Reserve trains and equips over half of the Sailors supporting NECC missions, including naval construction and explosive ordnance disposal [EOD] in the CENTCOM region, as well as maritime expeditionary security, expeditionary logistics (cargo handling battalions), maritime civil affairs, expeditionary intelligence, and other missions capabilities seamlessly integrated with operational forces around the world."[159] RC and AC expeditionary units are integrated to provide capabilities needed for the maritime environment. Based on recent cost-effectiveness studies, the Navy is planning to eliminate all NRF EOD and Security Force Assistance Training Teams and to reduce the numbers of NRF units in other mission areas.

Following is a brief description of the expeditionary units:[160]

- Navy Mobile Construction Battalions (NMCBs) or SEABEEs, are the basic elements of the Naval Construction Force (NCF). These battalions construct roads, bridges, bunkers, airfields and logistics bases worldwide. The FY2013 end-strength mix was 5,772 AC and 8,215 RC personnel.
- Navy Cargo Handling Battalions (NCHBs) are the basic organizational elements of the Navy Expeditionary Logistics Support Group (NAVELSG). These battalions perform surface and air cargo handling missions, cargo terminal and warehouse operations, fuel distribution, postal services, customs inspections, ordnance reporting and handling, and expeditionary communications. The FY2013 end-strength mix was 289 AC and 3,372 RC personnel.
- EOD teams provide trained officers and technicians, divers, and a variety of support ratings to render safe all types of ordnance, conduct demolition of hazardous munitions, and provide support to other organizations including the U.S. Special Operations Command (USSOCOM), U.S. Secret Service, and DHS. The FY2013 end-strength mix was 1,952 AC and 293 RC personnel. NECC has determined that the skill set required by

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[158] Data supplied by Office of Chief of Navy Reserve, 9 April 2013.

[159] Department of the Navy, *Highlights of the Department of the Navy FY 2013 Budget* (Washington, DC: Office of Budget, February 2012), 4–26, http://www.secnav.navy.mil/fmc/fmb/Pages/Fiscal-Year-2013.aspx. (On the website, under DEPARTMENT OF THE NAVY SUMMARY, click Budget Highlights Book.).

[160] Department of Defense, *National Guard and Reserve Equipment Report for Fiscal Year 2013* (Washington, DC: Office of the Assistant Secretary of Defense for Reserve Affairs, Deputy Assistant Secretary of Defense (Materiel and Facilities), February 2012), 4-8 to 4-11, http://www.dtic.mil/dtic/tr/fulltext/u2/a562014.pdf; Navy Expeditionary Combat Command (NECC) Website: http://www.necc.navy.mil/; end-strength numbers provided by NECC.

EOD personnel is extremely perishable and that future EOD units will be all AC personnel. Both EOD RC commands were decommissioned in FY2014.

- Maritime Civil Affairs and Security Force Training Teams conducted military-to-military training in support of security cooperation and security assistance programs. The FY2013 end-strength mix was 251 AC and 308 RC personnel. NECC has since disbanded all Maritime Civil Affairs and Security Force Training Teams.
- Coastal Riverine Force (CRF) Squadrons provide port and harbor security, high-value security and escort, surveillance and reconnaissance, insertion and extraction of small units, and command and control (C2) for supporting and assigned units.[161] These units operate in harbors, rivers, bays, across the littorals, and ashore. The standard unit of action is a Coastal Riverine Company equipped with four green-water capable patrol boats and four riverine/harbor security boats. The FY2013 end-strength mix was 2,492 AC and 3,100 RC personnel.
- The Navy Expeditionary Intelligence Command (NEIC) conducts human intelligence (HUMINT) operations in green-water and on-land environments; supports visit, board, search, and seizure (VBSS) operations; and provides tactical all-source analytic support for forward deployed expeditionary forces and tailored support for tactical maritime and ground irregular warfare missions. The FY2013 end-strength mix was 221 AC and 146 RC personnel.
- Combat Camera units provide specialized imaging acquisition and transmission capabilities to document force deployments and activities before, during, and after military engagements. These units are aligned under the 20th Seabee Readiness Group of the First Naval Construction Division. The FY2013 end-strength mix was 49 AC and 39 RC personnel.

Table 10 shows the expeditionary combat units in the Navy Reserve from just before the creation of the NECC in 2006 through projections for 2017.

5. Naval Special Warfare Command

The majority of Navy Special Warfare personnel serve under Commander, Navy Special Warfare Command, a component of USSOCOM, while a number serve directly under Commander, USSOCOM. Taking these two commands together, the Navy Special Warfare community, as of November 2012, was comprised of 9,685 total personnel, including 7,742 AC

[161] Maritime Expeditionary Security Units and Riverine Force Units merged into the CRF in 2012, with a three AC and four RC mix for 2013 and 2017.

Table 10. Navy and Navy Reserve Expeditionary Combat Units: 2005–2017

Commissioned Unit Types	2005	2009	2013	2017
Mobile Construction Battalions (AC)	8	9	7	6
Mobile Construction Battalions (RC)	12	12	12	6
Cargo Handling Battalions (AC)	1	1	1	1
Cargo Handling Battalions (RC)	13	10	10	7
EOD Teams (AC)	68	72	76	76
EOD Teams (RC)	16	15	14	0
Mobile Diving and Salvage Companies (AC)	17	14	13	12
Mobile Diving and Salvage Companies (RC)	0	0	0	0
Maritime Civil Affairs Teams (AC)		17	17	0
Maritime Civil Affairs Teams (RC)		15	30	0
Security Force Assistance Mobile Training Teams (AC)		50	25	0
Security Force Assistance Mobile Training Teams (RC)		25	5	0
Maritime Expeditionary Security Units (AC)	6	5		
Maritime Expeditionary Security Units (RC)	8	4	Merged into CRF in 2012	
Riverine Force Units (AC)	1	3		
Riverine Force Units (RC)	0	0		
CRF Squadrons (AC)			3	3
CRF Squadrons (RC)			4	4
Expeditionary Intelligence Teams (AC)		47	18	15
Expeditionary Intelligence Teams (RC)		0	8	6
Combat Camera Personnel Atlantic (AC)	40	49	49	49
Combat Camera Personnel Atlantic (RC)	39	41	39	39

Source: Data was supplied by NECC.

personnel, 807 RC personnel, and 1,136 civilians.[162] There is one RC Special Warfare Group, Navy Special Warfare Group 11, which has 2 sea-air-land (SEAL) teams, 20 operational support units, and 18 regional Navy Special Warfare detachments. The RC unit was formed in 2008, and approximately 27 percent of the Navy Special Warfare reservists are serving on active duty at any one time. Ninety-six percent of SEAL officers and 98 percent of enlisted SEALs have been mobilized in support of OCOs or other active duty requirements.[163]

[162] Data supplied by Navy Special Warfare Command and Navy Special Warfare Group 11.

[163] Department of Defense, "National Guard and Reserve Equipment Report for Fiscal Year 2013," 4-12.

6. Reservists Funded by the Navy's Resource Sponsors

In addition to supporting fleet operational units and COCOMS, the Navy Reserve has personnel assigned or attached to headquarters staffs and to major support commands throughout the shore establishment. Table 11 shows the distribution of authorized military—AC and RC—and civilian billets by Resource Sponsor as of 24 April 2013 and is further broken down into sea or shore billets. What is not clear from these data is the number of personnel in the various warfare enterprises (aviation, surface, under sea, and expeditionary warfare) serving in operational units (ships, aviation squadrons, Seabee battalions, operational staffs, and so forth).

Table 11. Navy AC-RC Mix by Resource Sponsor FY2013

Resource Sponsor	AC	SELRES	FTS	Total RC	Total Military	Percent RC	Civilian
Naval Surface Warfare Enterprise—Sea	30,411	230	374	604	31,015	2	114
Naval Surface Warfare Enterprise—Shore	9,731	881	113	994	10,725	9	28,182
Naval Aviation Enterprise—Sea	60,903	2,962	2,301	5,263	66,166	8	38
Naval Aviation Enterprise—Shore	21,306	1,770	1,416	3,186	24,492	13	29,035
Naval Undersea Warfare Enterprise—Sea	15,472	417	2	419	15,891	2	33
Naval Undersea Warfare Enterprise—Shore	13,645	2,649	25	2,674	16,319	16	33,200
Naval Expeditionary Combat Enterprise—Sea	38,248	8,337	563	8,900	47,148	19	592
Naval Expeditionary Combat Enterprise—Shore	7,893	10,141	256	10,397	18,290	57	3,162
Naval Network Warfare/ FORCEnet Enterprise—Sea	7,510	546	32	578	8,088	7	240
Naval Network Warfare/ FORCEnet Enterprise—Shore	18,272	5,164	138	5,302	23,574	22	17,094
Manpower, Personnel, Training, and Education—Sea	8,891	406	41	447	9,338	5	204
Manpower, Personnel, Training, and Education—Shore	67,967	8,197	4,565	12,762	80,729	16	36,170
Readiness and Logistics—Sea	1,859	515	7	522	2,381	22	5,145
Readiness and Logistics—Shore	15,743	5,282	251	5,533	21,276	26	51,134
Total Authorized Billets (24 April 2013)	**317,851**	**47,497**	**10,084**	**57,581**	**375,432**	**15**	**204,343**
Total Authorized End Strength (30 September 2013)	**322,700**	**50,942**	**11,558**	**62,500**	**385,200**	**16**	**214,723**

Source: OPNAV N12, e-mail, 13 May 2013.

For example, the Surface Warfare Enterprise–Sea shows 230 SELRES personnel, but surface ships do not have SELRES billets. The database from which the IDA research team got its information, however, shows one SELRES billet for FFG-60 in Everett, Washington, and 66 billets for LCS-1. FTS personnel are serving in the same fashion as AC personnel at all levels, including command, on surface ships, but the IDA research team was unable to determine the exact numbers. On the other hand, RC personnel—SELRES and FTS—fill all the billets in the Navy squadrons that provide intra-theater lift, so it would be expected that a significant number of the 8,233 RC billets in the Naval Aviation Enterprise are operational in nature.

On any given day, approximately 25 percent of Reserve sailors are on full-time active duty (FTS, mobilizations, deployments, active duty operational support) while others serve on a part-time basis. Support to the shore establishment ranges from engineers and technicians in the Naval Sea Systems Command Surge Maintenance (SURGEMAIN) program that supports shipyard projects to the Intelligence personnel who provide global intelligence support.[164]

Particularly important in the last decade has been the Navy RC support as IAs to operations in Iraq and Afghanistan. Through the end of 2011, the Navy provided 102,025 IAs, of which 66,876 (66 percent) were Reserve personnel. In 2012, the Navy provided 7,613 IAs, of which 4302 (57 percent) were Reserve personnel. For FY2013, as of 6 June, orders had been written for 4,484 Navy IAs, of which 3,132 (70 percent) were Reserve personnel.[165] The Navy Reserve leadership has said it will strive to manage all Navy IA assignments in the future. Fulfilling this commitment will be limited to the extent that a required skill set does not exist in the RC or a new funding mechanism is not created to replace OCO funding that has been used to support IA assignments.[166]

D. Observations

The evolution of the Navy Reserve reveals three major issues that affect the AC-RC relationship in the Navy: the future of the Navy Reserve, requirements for the Navy Reserve units and personnel, and a strategy for integration of the Navy Reserve with the Active Navy.

1. Future of the Navy Reserve

The future size and role of the Navy Reserve is not clear. The NRF does not operate ships. CNARF still operates a significant number of aircraft but primarily in non-combat functions. The RC role in the NECC is being diminished. The RC does provide a large number of IAs to COCOMs and other major staffs, to the Shore Establishment, and for operations in Afghanistan and elsewhere around the world. Acknowledging this latter use of reserve personnel, it may be that outside the aviation community, the role of the Navy Reserve is evolving into one in which it

[164] Ibid., 4-5.

[165] Data provided by Fleet Forces Command.

[166] Captain Rey Consunji, Director, Fleet Operational Support Officer, Fleet Forces Command, phone call, 18 January 2013.

serves primarily as an individual augmentation pool to support joint operations and to provide certain expertise that is not readily available in the AC.

Future Navy budgets will have significant impact on the strength and role of the Navy Reserve. The Navy used RC personnel extensively during the wars in Iraq and Afghanistan, but the mobilizations of these personnel were funded by temporary OCO funds and not the Navy base budget. However, even if OCO funding is reduced, the demand for the RC will likely continue or even increase. The CNO has observed that "As future fiscal and operational challenges present Navy leaders with difficult decisions, our increased utilization of the Navy Reserve will help us hedge against uncertainty as we continue meeting operational demands."[167] Further highlighting the Navy's dependence on the RC in an era of more austere funding, the CNO goes on to say that "we recognize that our Reserve Sailors deliver military skills and unique talents developed through civilian employment. These 'civilian skills' provide added value to the Navy; capabilities that do not reside in or would be cost-prohibitive to replicate in the Active Component."[168] Despite this recognition by the Navy's top leadership of the Navy's reliance on its RC, the CNR acknowledges the need to prepare for an unpredictable future and emphasizes that "the future demands that we harness and employ our military and civilian capabilities with greater precision."[169]

Thus, while Navy leadership expresses its reliance on the RC and the RC has strong support in the Congress, the extent to which the most recent strength of 62,500 part-time and full-time Reservists will be supported in the future necessarily remains at issue. There are several reasons why future Reservists support will remain issue:

- Some observers express the view that despite the CNO's words,[170] the Navy traditionally has not understood, appreciated, or even shown much interest in the Navy Reserve. VADM Cotton expressed exactly this view in 2004, when he said "The Navy has not understood its Reserve Force for a long time. This educational piece is huge."[171] The observers who share this view say that historically, the Reserve has not been factored into routine operations and it frequently has not been provided modern equipment that would allow relevant training and provide a useful asset for mobilization. In this view, the lack of a Navy strategy for Reserve employment, despite the Total Force Concept, indicates a general neglect of the Reserve by the Active Navy.
- Paradoxically, some hold the view that the Navy receives considerable assistance from the Reserve, but neither AC nor RC people fully appreciate the fact. At the time of the ZBR, VADM Cotton expressed the view that the "AC never realized all the things that

[167] U.S. Navy, *2015 – 2025 Navy Reserve Vision: Our Course to the Future* (Norfolk, VA: Chief of Navy Reserve, n.d.), 2, https://www.navyreserve.navy.mil/documents/NR_vision_2015.pdf.

[168] Ibid.

[169] Ibid., 3.

[170] U.S. Navy, *2015 – 2025 Navy Reserve Vision,* 2.

[171] "Interview with VADM John G. Cotton," 11.

we are doing, because they incorrectly judge the effectiveness of the RC based just on who is mobilized."[172] What some in the AC, mainly the programmers and budget analysts, do appreciate are the dollars that the Reserve brings. In this regard, VADM Cotton observed that "Active Duty appreciates FTS more than ever. When you go to our weekly operational support graphic, they find out that you have over 5,000 FTS in operational billets. They also appreciate that they come from a different appropriation."[173] While FTS manning was reduced between 2004 and 2011 from 14,118 to 10,504, the N81 study discussed earlier revealed that only about 3,200 of the 10,504 FTS personnel are required to train and administer the Navy RC. This finding would appear still to leave approximately 7,300 FTS personnel filling operational, staff, or shore support and headquarters billets for the Active Navy, drawing, as VADM Cotton said, on a different appropriation. This situation is analogous to the one in which OMNR funds were transferred to the AC commanders for support of the NRF frigates, which conducted the same operations as all other frigates.

Navy Reserve FTS personnel are integrated in the total Navy. They serve in many types of operational billets, including as commanding officers. Serving in operational units, they provide an RC perspective, and they can use their operational experience to train other reservists when they staff NOSCs.

These various employments of the RC and the manner in which the RC is viewed, understood, and misunderstood serve to provide a strong argument for an ongoing strategic appraisal by the Navy of its AC-RC mix. The first step would be to establish requirements for Navy Reserve units and personnel.

2. Requirements for Navy Reserve Units and Personnel

In 2002, the Assistant Secretary of the Navy for Manpower and Reserve Affairs (M&RA) stated that the "Requirements process for Reserve capabilities lacks clear definition and ownership. There are multiple resource sponsors participating in a difficult, complex process with little rhyme or reason to funding imperatives."[174] In other words, no AC-authored strategy was developed for the employment of the Reserve. Little has changed in 12 years.

The lack of top-level AC oversight of the Navy's RC was addressed in a study conducted by a student at the Joint Forces Staff College in 2010 who found "there is no coherent strategic guidance articulating the capabilities that the RC is to provide … therefore, the RC focuses on

[172] Ibid. 17.

[173] Ibid. 15.

[174] Assistant Secretary of the Navy (M&RA), briefing (Washington, DC: Department of the Navy, 8 November 2002).

improving existing capabilities."[175] The author observed that "the primary core capabilities that the Navy Reserve provides have changed significantly over the past decade. The focus has moved from conventional core Navy skills such as operating warships, submarines, and aircraft, to irregular warfare and combat support."[176]

There is no AC-authored strategy defining required RC capabilities. There does not even appear to be a primary office responsible for analyzing and programming the AC-RC mix in the Navy.[177] It appears that individual BSOs fund the RC capabilities that they feel they need and can afford. Despite Navy Instructions and Office titles, analysis of the AC-RC mix and the policy formulation on the AC-RC mix is not performed today by the CNO's Assessment Division (N81), the Operations, Plans, and Strategy Section (N3/N5), the Total Force Requirements Division (N12) in the Office of the Deputy Chief of Naval Operations (Manpower, Personnel, Training, and Education) (N1), or the Office of the Chief of Navy Reserve (OCNR).

OPNAV Instruction (OPNAVINST) 1001.21B, promulgated in 1998 and allowed to lapse in 2012, designated the Director, Strategy and Policy Division (N51) as the Navy's Total Force Advocate.[178] While that instruction was active, N51 was designated to formulate policy regarding the optimum force mix to achieve peacetime and wartime Total Force objectives, monitor the Navy's overall Total Force planning and programming process, and direct analytical studies to optimize the Total Force personnel and hardware mix.[179] However, as OPNAVINST 1001.21B fell into disuse over time, N51 ceased performing the functions prescribed in that instruction. The N81-sponsored AC-RC assessment conducted in 2011 found that N81 could not identify the codes in N51 responsible for performing these functions.[180]

OPNAVINST 1001.21B also prescribed that the Total Force Advocate serve as the OPNAV AC representative on the Secretary of the Navy National Naval Reserve Policy Board (NNRPB) and on the Secretary of Defense Reserve Forces Policy Board (RFPB).[181] An AC Naval representative no longer sits on either board. The NNRPB is composed of 22 military personnel, 3 of whom may be from the AC.[182] Currently, all board members are reservists. The officer

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[175] Robert P. Hardegen III, *Navy Reserve: Not Ready for OLC* (Norfolk, VA: Joint Staff College, Joint Advanced Warfighting School, 2010), 2, http://www.dtic.mil/dtic/tr/fulltext/u2/a530259.pdf.

[176] Ibid.

[177] One reviewer of this chapter, designated by the OPNAV staff, commented: "Very true! An attempt to identify the primary office last year produced only insistence by multiple branches that 'it isn't us.'!"

[178] Department of the Navy, "Total Force Policy," OPNAVINST 1001.21B (Washington, DC: Office of the Chief of Naval Operations, 10 June 1998), Enclosure (1), 4, http://www.public.navy.mil/ia/Documents/1001.21B.pdf.

[179] Ibid.

[180] Office of the Chief of Naval Operations (N81), *Active Component (AC) Reserve Component (RC) Assessment,* 22.

[181] Department of the Navy, "Total Force Policy," Enclosure (1), 4.

[182] Office of the Secretary of the Navy, "The National Navy and Marine Corps Reserve Policy Board," SECNAV Instruction 5420.170L, CH-1 (Washington, DC: The Assistant Secretary of the Navy, Manpower and Reserve

designated to represent the AC is an FTS commander on the OPNAV N3 staff. The final report of the board for 2012 reflects the board's charter to focus on Reserve policy matters. It is not concerned with AC-RC integration policy or the balance between the AC and RC. The FY2011 National Defense Authorization Act revised the responsibilities and membership of the RFPB, and AC representatives no longer sit on the board.[183] As with the NNRPB, the focus of the board appears to be on issues peculiar to the RCs rather than on the integration and balance of AC and RC forces. At one time, N51 was also charged with heading the Navy's Total Force Flag Steering Group, which provided oversight of the Navy's Active-Reserve Integration effort. That group, which operated under an OPNAV instruction that has been cancelled, no longer exists. The question now is, where does the leadership for the Navy's Total Force and efforts to integrate the AC and RC now reside?

It is also not clear what Navy agencies, in addition to specific leaders and OPNAV offices, might be addressing the Navy's AC-RC mix. The Naval Manpower Analysis Center (NAVMAC), which works for OPNAV N12, provides guidance to the 21 Navy BSOs responsible for managing all Navy manpower.[184] While the BSOs appear to be major players in determining the Navy's AC-RC mix, NAVMAC does not play a role in the strategic planning of the RC.

Despite the fact that identifying an office responsible for determining the Navy's overall AC-RC mix is not possible, the Navy contends that it does conduct effective analysis of the AC-RC mix. The Navy's position is that a correct AC-RC mix varies within a wide range of missions and that the Navy continually analyzes the mix as new missions emerge and existing missions evolve. In a briefing presented in September 2010, VADM Bruce W. Clingan, Deputy Chief of Naval Operations (N3/N5) and VADM Dirk J. Debbink, then CNR (N095) stated that the "Navy has been reviewing RC roles and implementing the AC-RC Mix for [the] past 7 years."[185] For the RC units under Fleet Forces Command and U.S. Pacific Fleet, that analysis is conducted through the biennial RCR. Based on discussions with various Navy offices and as found by the N81 study, the analysis of the AC-RC mix for other Navy Reserve forces is conducted by the individual BSOs.

On a daily basis, Navy Reserve personnel, both FTS and SELRES, are providing valuable service in the Operating Force, at shore support commands, and in headquarters offices. However, the current method of employment may or may not result in the most productive and cost effective AC-RC mix. The Commander, Fleet Forces Command, the Commander, U.S. Pacific Fleet, and

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Affairs, 20 December 2012), 2, http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-400%20Organization%20and%20Functional%20Support%20Services/5420.170L%20CH-1.pdf.

[183] Arnold L. Punaro, "Letter from Chairman of the Reserve Forces Policy Board to Admiral Jonathan Greenert, Chief of Naval Operations," 3 November 2011.

[184] CAPT Chris Harris, LCDR Bob Carr, and Mr. George Vogel, "Command Overview," briefing (Millington, TN: Navy Manpower Analysis Center (NAVMAC), August 2012).

[185] Office of the Chief of Naval Operations, "Navy Composite Warfighting Force," briefing by VADM Bruce Clingan, Deputy Chief of Naval Operations (N3/N5), and VADM Dirk Debbink, Chief of Navy Reserve (N095), 30 September 2010.

individual BSOs across the Navy regularly review their use of RC personnel and budget for the use of the RC going forward. However, this kind of analysis tends to be historical in nature, looking at how the RC has been used in the past to fill AC gaps. Many have observed that the most helpful strategy would be one that is designed by the Navy AC and defines the most cost effective AC-RC force mix consistent with the Navy meeting its overall capability requirements as spelled out in the National Security and National Military Strategies.

Short-term planning has replaced long-term strategy. As discussed earlier, in May 2004, the Assistant Secretary of the Navy (M&RA) wrote that "Fleet Forces Command now has the responsibility for identifying, validating, and communicating to CNR and CNRFC those activities and functions in the operational Navy that require Reserve support."[186] It does not appear that any one person has a similar responsibility with regard to Reserve support to the shore establishment. Instead, each BSO determines its own Reserve requirements. The fact that each individual BSO is determining its own Reserve requirements would seem to imply the absence of a strategic and coordinated approach for employing scarce resources to obtain the greatest value from funding provided for the Navy Reserve.

Indicative of this short-term approach to planning, the Commander, Fleet Forces Command and Commander, U.S. Pacific Fleet annually send out guidance for operational employment of the RC.[187] This guidance requires Operational Support Officers (OSOs) (Reserve Officers attached to various commands) to develop an RC operational support plan for the year and to adjust it as the year progresses. OSOs are directed to manage funding based on activities within five broad categories listed in order of priority:

- Mobilization Readiness,
- Fleet Demand (Operational Support),
- Fleet Exercise Support,
- Fleet Event or Staff Support, and
- Training/Other.

In other words, an effort is being made to ensure that funding decisions at the lowest level comport with established priorities, but the priorities do not reflect a strategic approach to developing Navy capabilities with an integrated AC and RC.

The fundamental question remains, who in the Active Navy is responsible for ensuring a coherent approach to the development of a Total Force that effectively integrates the AC and the RC? At one time, that responsibility was spelled out in a Navy instruction and belonged to N51. VADM Cotton indicated that at some point the responsibility migrated to the CNO's Deputy

[186] Navas, "Integration of the Active and Reserve Navy," 17.

[187] Commander, U.S. Fleet Forces Command, "Fiscal Year 2013 Fleet Guidance for Operational Employment of the Reserve Component," FY 13 Fleet Priority Message, 2012.

Operations and Plans, N3/N5B,[188] but it is not known how this migration took place. Today, it seems clear that there is no written guidance assigning the responsibility.

Today, individual BSOs are making entirely reasonable decisions on how to employ specific RC resources to achieve their assigned missions, and OSOs are managing Reserve funding in accordance with Fleet Commander priorities. This process is workable. However, this method of establishing requirements is effective only if there is a strategy for use of the Navy Reserve.

3. A Strategy for Integration of the Navy Reserve with the Active Navy

The Navy Reserve leadership continues today, as in 2002, to identify as a major planning shortfall that no Navy-authored strategy is available for organizing and using the Navy Reserve. In April 2012, recognizing the challenges posed to the Navy in trying to meet its operational commitments with fewer resources, Admiral Debbink recommended development of an AC-authored RC employment strategy. He suggested that current plans for existing capabilities and plans for manning new capabilities should take into account ways to leverage Reserve strengths and advantages. His recommendations took into account cost, risk, and warfighting impact.[189] Recent transfers of funds from NECC to other activities are in line with his specific recommendations.[190]

The Naval Reserve existed for many of its years following WW II as a semi-autonomous organization within the Navy. Despite several attempts to integrate the Navy Reserve into the Navy, the operational portion, with the exception of Reserve aviation, remained primarily a manpower pool to be called upon when supplemental funding, outside the base budget, permitted.

In 2008, the CNO tasked the VCNO "to direct and oversee changes to existing Navy structure and alignment."[191] Coincidentally, after the CNR made his recommendations to the CNO in April 2012, the VCNO asked the Fleet to identify how it would use 3,000 more Reservists if they were made available. This request was driven by Congressional action that would result in an eventual increase in Reserve numbers over those previously planned by the Navy. The Fleet Forces Command saw an opportunity to resource emerging mission areas such as the Littoral Combat Ship (LCS) mission modules, Fire Scout Aviation Detachments, and BAMS UAS, and the Fleet Commander forwarded his recommendation accordingly. These mission sets were entirely consistent with recommendations made by the CNR.

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[188] "Interview with VADM John G. Cotton," 15.

[189] Chief of Navy Reserve, "Navy Reserve Support to Navy."

[190] Interview with VADM Robin R. Braun, Chief of Navy Reserve, 4 June 2013.

[191] Chief of Naval Operations, "Tasking Assignments to Institutionalize the Operational Navy Reserve."

4. Summary

This brief chronology highlights two issues. First, Navy planners do not have a broad, Navy-wide strategy for RC employment from which to work. Rather, individual planners take the number of RC assets available and determine the optimum AC-RC mix to accomplish specific Navy missions. This approach is certainly logical in the absence of a larger overarching strategy. Second, the CNO's tasking to the VCNO and the tasking to the Fleet by the VCNO suggest that in the absence of written guidance to the contrary, perhaps the Navy's Total Force Advocate today is actually the VCNO. That begs the question, what are the strategic priorities that help shape the VCNO's decisions or recommendations to the CNO?

Another way of looking at the situation is to recognize that in the absence of a written strategy for Reserve employment or designation of a Total Force Advocate, the CNO, as the ultimate decision maker, retains the role of Total Force Advocate. The current CNO's three guiding tenants—Warfighting First, Operate Forward, and Be Ready[192]—require that he ensure that all of the Navy's resources are being used in the most effective and efficient manner, particularly in a time of increasing budgetary pressures. He explicitly states the need to "harness the teamwork, talent, and imagination of our diverse force to be ready to fight and responsibly employ our resources."[193] These resources include all of the Navy's SELRES and FTS personnel. The integration of RC capabilities and budget assets with those of the AC is essential for achieving the most capable and ready Total Force. However, even if one accepts that the CNO is the visible Total Force advocate for the Navy, the question remains as to who in the organization is responsible for conducting the planning and analysis of the AC-RC mix necessary to support the CNO in his decision making.

Finally, it is also interesting that the 2008 CNO tasking memorandum discussed earlier specifically directed maintaining "authority and responsibility for Reserve Strategic Baseline planning, programming, budgeting, and execution under Commander, Navy Reserve Force."[194] At the same time, it directed the investigation of aligning the authority and responsibility for Reserve Operational Employment planning, programming, budgeting, and execution to the AC. Thus, this tasking memorandum does not make clear how Reserve Strategic Baseline planning (under the Reserve Force Commander) and Reserve Operational Employment (by the AC) are to be integrated or how the funding issues are to be analyzed and resolved.

Resolution of this apparent dichotomy would benefit the Navy and be consistent with its Total Force Concept. A view expressed by a variety of RC planners is that it is not for the Navy's RC to determine the appropriate AC-RC mix. Rather, it is a task that should be undertaken by the Navy through its planning and budgeting processes, with input from the RC. The essence of this approach would be the development of a Navy-authored RC employment strategy and the alignment of that strategy with force structure and readiness investment strategies. In this view and

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[192] "CNO's Sailing Directions," http://www.navy.mil/cno/cno_sailing_direction_final-lowres.pdf.

[193] Ibid.

[194] Chief of Naval Operations, "Tasking Assignments to Institutionalize the Operational Navy Reserve."

in a manner similar to the Navy's lead/follow Enterprise structure, the Navy Reserve follows the Navy, not the other way around. In a strategic sense, the Navy would determine what it needs to accomplish its missions and then, through formal analysis, decide how its RC can best contribute to the performance of those missions. The RC leadership would be available to contribute in every step of this process. With this approach, determining the future employment of the Navy Reserve in support of Navy's various warfighting and provider enterprises should be an active Navy endeavor, with the Navy Reserve serving as a force provider. This view anticipates that the Navy could achieve a greater and more cost-effective capability with a Navy-authored RC employment strategy, the associated analytical tools to support the development of that strategy, and the evaluation of the strategy as it evolves. Thus, with an established Reserve employment strategy and an associated AC-RC mix, the Navy Reserve would be positioned to man, train, and equip more efficiently to meet the Navy's requirements.

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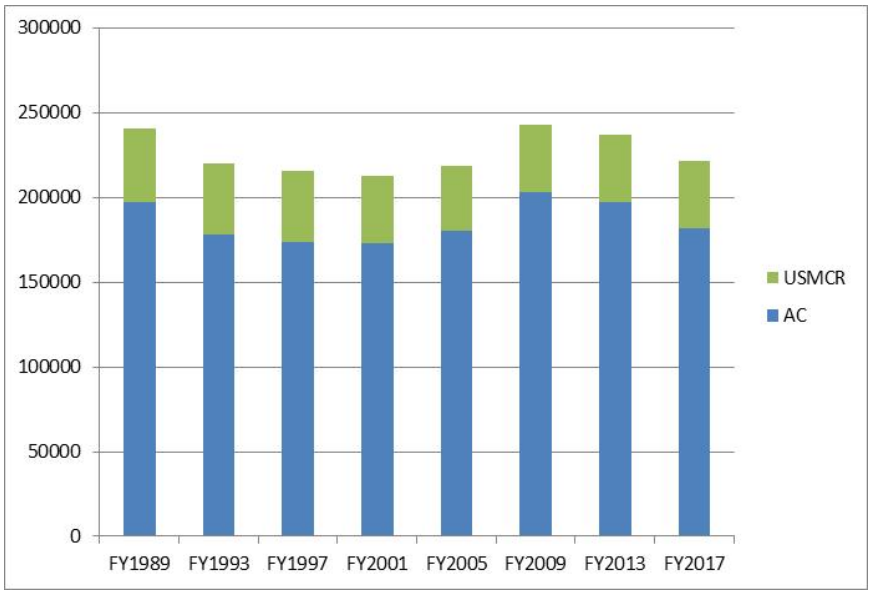
4. The AC-RC Mix in the U.S. Marine Corps

This chapter summarizes the modern history of the Marine Corps Reserve (MCR) and its employment in the 1990s, the relationship of the Marine Corps to its Reserve, and the Marine Corps' investment in the Reserve as demonstrated from enterprise management through manning, training, and equipping. The chapter concludes with observations about the integration of the Reserve and policies that foster integration of the Reserve in the Marine Corps.

A. Introduction

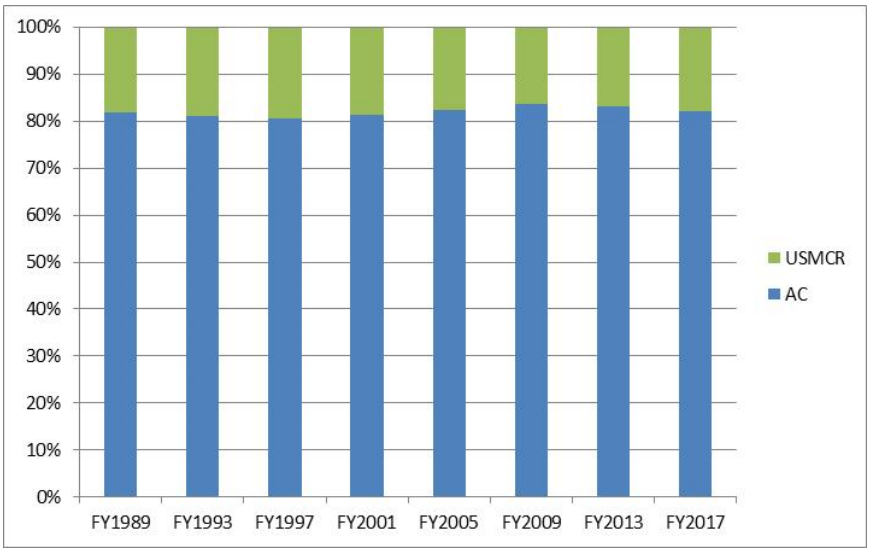
Figure 21 shows the number of personnel by component, and Figure 22 shows the proportions of the Marine Corps strength by component from the end of the Cold War to FY2017.



Source: Appendix A of this document.

Figure 21. Marine Corps Personnel Strengths by Component

The data in Figure 21 and Figure 22 show the remarkable stability of Marine Corps strength since the end of the Cold War in 1989. Active Marine Corps military strength has varied from almost 200,000 in 1989 to 170,000 in 2001 and then increased to over 200,000 in 2009 at the height of OIF/OEF and is programmed to be reduced to about 182,100 in 2017. Selected Marine



Source: Appendix A of this document.

Figure 22. Proportion of Marine Corps Strength by Component

Corps Reserve (SMCR) strength decreased from 43,000 in 1989 to a base level of about 39,600 thereafter. During this period, the proportion of AC and RC military personnel has remained at about 80 percent AC and 20 percent RC.

B. The Evolution the MCR 1962–1989

The modern history of the MCR started in 1962 when Secretary of Defense Robert S. McNamara, in his annual posture statement to Congress, indicated that he wanted the Marine Corps ready to go with four division-wing teams—one of them to be formed in the Ready Reserve—for the next 5 years.[195] This approach was new for the MCR, which, since its formation in 1916, had been organized as an assortment of drill units training individuals who were to be mobilized to fill vacancies in the regular Marine Corps.[196] In response to the Secretary's mandate, General David M. Shoup, 22nd Commandant of the Marine Corps, announced in July 1962 the reorganization of the Organized Marine Corps Reserve (OMCR) into the 4th Marine Division and the 4th Marine Aircraft Wing, which were to be mobilized by units rather than individual Marines.[197] In 1965, General Shoup again reorganized the OMCR along the lines of the active forces so that the 4th Division/Wing team became a mirror image of an active Marine Expeditionary Force (MEF).[198] In December 1967, P.L. 90-168 changed the OMCR structure and established the

[195] Reserve Office of Public Affairs Unit 4-1, "The Marine Corps Reserve–A History" (Washington, DC: Division of the Reserve, Headquarters, U.S. Marine Corps, 1966), 228, http://babel.hathitrust.org/cgi/pt?id=mdp.39015048952157#view=1up;seq=296 (Full wiew (original from the University of Michigan)).

[196] Colonel H. S. Wilson, "Reserve Report," *Marine Corps Gazette*, 51, no. 7 (July 1967): 12.

[197] Major C. W. Sampson, "Reserve Report," *Marine Corps Gazette* 53, no. 12 (January 1969), 45.

[198] Ibid., 45.

SMCR.[199] The SMCR was organized into the 4th Marine Division, 4th Marine Aircraft Wing, and the 4th Force Service Support Group (FSSG).[200] At that time, the concept for employment of the SMCR was flexible and provided several options, depending on the circumstances. The SMCR would be ready—on order—to do one or more of the following:[201]

- Augment the active Marine Corps selectively with trained individual personnel or small teams as necessary to field three active MEFs at full wartime strength.
- Reinforce the active MEFs with selected units, as warranted by the situation.
- Provide a capability to reinforce with an additional Marine Expeditionary Brigade (MEB).
- If augment/reinforce is not ordered, provide a full division, a wing, and an FSSG.
- If augment/reinforce is ordered, provide a nucleus to reconstitute a full division, awing, and an FSSG.

The AC-RC mix of the Marine Corps has remained basically the same since the 1960s. Some changes have been made in the types of units, particularly in aviation, but the overall pattern remains the same. What has changed, however, is the manner in which the Marine Corps used the SMCR and the IRR in recent combat operations.

C. Employment of the MCR 1990–2012

To appreciate how the Marine Corps operates, one must understand the Marine Air-Ground Task Force (MAGTF) concept. The Marine Corps is organized for administrative and training purposes into divisions, wings, regiments, groups, battalions, squadrons, and smaller organizations. When Marine Corps elements are deployed, they are formed into MAGTFs. A MAGTF is formed with a command element, a ground combat element, an aviation element, and a combat logistics element. The exact composition of each MAGTF depends on the specific mission and usually differs in some ways from the generic models. Table 12 shows the three generic types of MAGTFs.

In this context, the advent of unit rotation and cyclical readiness has introduced sustainment as a third way that the MCR supports the AC. Sustainment is the use of SMCR units to replace AC units in the rotation schedule for enduring operations.

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[199] Reserve *Forces Bill of Rights and Vitalization Act,* Public Law 90-168, 81 Stat. 521, 522, December 1967, http://www.gpo.gov/fdsys/pkg/STATUTE-81/pdf/STATUTE-81-Pg521.pdf.

[200] In 1976, the Force Service Support Regiment (FSSR) was designated as the FSSG.

[201] *Marine Corps Concepts and Issues* (Quantico, VA: Director Marine Corps Research Center, February 1985), VI-1. (The original modifier "amphibious" has been replaced by the current word "expeditionary.")

Table 12. Marine Corps Task Force Organizations

MAGTF	Strength	Command Element Commander	Ground Combat Element	Aviation Combat Element	Logistics Combat Element
Marine Expeditionary Unit (MEU)	3,000–5,000	Colonel	Infantry Battalion Landing Team	Aviation Squadron	Combat Logistics Battalion
MEB	15,000–25,000	Brigadier General	Infantry Regimental Combat Team	Aviation Group	Combat Logistics Group
MEF	40,000–120,000	Lieutenant General	Marine Division	Marine Air Wing	Combat Logistics Command

1. Operation Desert Shield/Desert Storm: 1990–1991

For the first 75 days after the start of Operation Desert Shield/Desert Storm, only a few reserve volunteers were placed on active duty, but, starting on 1 November 1990, the Marine Corps called up involuntarily over 31,000 reservists.[202] Many of these Marines were deployed to SWA, and others were used to conduct missions elsewhere. Table 13 shows the break out of these Marines.

Table 13. MCR Participation in Operation Desert Storm

Reservists	Strength
SMCR	
4th Marine Division	15,616
4th Marine Air Wing	4,176
4th FSSG	3,999
Total SMCR	**23,791**
Pre-Trained Individuals	
IRR	6,243
Preassigned IRR	1,464
Retire Personnel	615
Total Pre-Trained Individuals	**8,322**
Total Reservists	**32,113**

Source: Adapted from information in Colonel Charles J. Quilter II, *U.S. Marines in the Persian Gulf, 1990-1991: With the I Marine Expeditionary Force in Desert Shield and Desert Storm* (Washington, DC: History and Museums Division, Headquarters, U.S. Marine Corps, 1993), 21–23, http://www.marines.mil/Portals/59/Publications/U.S.%20MARINES%20IN%20THE%20PERSIAN%20GULF%201990-1991%20EXPEDITIONARY%20FORCE%20PCN%2019000317200_1.pdf.

[202] Brinkerhoff, "Guard and Reserve Combat Units in the Persian Gulf War," D-2.

Most of the SMCR units were used to reinforce AC formations. About 12,000 reservists were deployed to SWA. An SMCR regimental headquarters was deployed to SWA and assigned to command the Port of Al Jubayl. A few SMCR infantry and tank battalions reinforced AC regimental combat teams. Many SMCR companies were used to reinforce AC battalions. All aviation squadrons, except eight fighter/attack squadrons, were activated, and five helicopter squadrons deployed to SWA. Most of the SMCR combat logistics units were divided into teams and individuals to augment AC logistics units, but the 6th Transportation Battalion operated as a unit. Other SMCR units and individuals were used to backfill requirements in other theaters and expand the CONUS base.

In the decade after Operation Desert Storm, the MCR participated in several operations in support of the AC. Reserve KC-130s supported Operation Northern Watch. Infantry, aviation, and combat logistics units and individual reservists routinely participated in exercises, including New Horizons in South America, Cornerstone in Albania, Cobra Gold in Thailand, Ulchi Focus Lens in South Korea, Combined Endeavor in Germany, and Rolling Thunder, Kernel Blitz, and various minor exercises in the United States. In 2000, Marine Civil Affairs Detachments were called upon to provide support in Bosnia and Kosovo.

2. Operation Noble Eagle (ONE): 2001–2002

ONE was the domestic response to the terrorist attacks of 11 September 2001. The Marine Corps activated two reserve infantry battalions to provide quick-reaction forces for two Federal Emergency Management Agency (FEMA) regions and a Heavy Helicopter Squadron to augment the 2nd Marine Aircraft Wing and the East Coast Marine Expeditionary Unit/Special Operations Capable (MEU-SOC). In addition, several reservists were mobilized to augment I and II MEF Headquarters.

3. OIF: 2003

Many SMCR units and individuals were called up and integrated into Marine operations in the initial phase of OIF starting in 2003.[203] Personnel from the 4th Marine Division headquarters augmented the III MEF staff. Four SMCR infantry battalions were deployed. One infantry battalion reinforced the 1st Marines. Three other infantry battalions were employed as whole units to perform specific missions. The 4th Light Armor Reconnaissance Battalion provided security for the 1st Marine Division, and two of its companies reinforced the 5th and 7th Marines. The 4th Assault Amphibian Battalion was broken up to augment AC battalions. SMCR tank and reconnaissance companies were assigned to AC units. Elements of SMCR Air Naval Gunfire Liaison Company (ANGLICO) and CA groups augmented other I MEF units. Elements of the 4th Marine Air Wing were also deployed and were integrated into 3rd Marine Aircraft Wing (MAW) units. Two SMCR

[203] This section is based on Brinkerhoff, Adams, and Magruder, *National Guard and Reserve Participation in Selected Military Operations After 9/11*, 37–45. The reference provides a detailed record of use in the initial phase of OIF and other operations in the early years.

aerial refueling squadrons (KC-130s) and one heavy helicopter squadron (CH-53s) were deployed and employed as units. Many elements of the 4th FSSG were assigned to augment similar elements of the 1st FSSG.[204] Several other 4th FSSG battalions were deployed and used either as intact units or more often to provide subunits to augment similar AC units. In addition to the units, numerous individual reservists were activated and deployed as IAs for assignment to high-level headquarters and activities. For the initial phase of OIF, the Marine Corps used its Reserve in much the same way that it did for Operation Desert Storm 13 years earlier. Overall, every SMCR unit at the battalion or squadron level deployed to OIF or OEF during these campaigns.

D. Management of the MCR

The relationship between the Marine Corps and the MCR differs from that which exists for the Reserve units of the other three Services. The most visible evidence of this relationship is shown in the ways by which the Marine Corps manages the MCR.

1. Management of the Total Force at the Enterprise Level

The Commandant of the Marine Corps, assisted by the Deputy Commandants, is responsible for policy, programming, and budgeting for the AC and the RC. Each Deputy Commandant has within his portfolio of responsibilities oversight on matters that pertain to the MCR within his functional area. This method differs from other Services, which manage their RCs as separate enterprises under the purview of their respective Reserve Chiefs. To a remarkable degree, the Marine Corps Total Force construct is unique—designed to manage the Total Force Marine Corps from an enterprise perspective.

2. FTS Investment

The Marine Corps uses a unique approach to man, train, organize, and equip the MCR. The Marine Corps provides approximately 4,000 active duty Marines to support the training, administration, and operational readiness of MCR units. In addition, the Marine Corps also employs approximately 2,200 FTS reservists to manage Title 10 Service responsibilities. The active duty personnel are called Inspectors and Instructors (I-I), and approximately two-thirds of these Marines are integrated into the operational units. As inspectors, they ensure that unit administration, training, supply, and maintenance functions are carried out in accordance with Marine Corps policies. As instructors, they assist in planning and coordinating collective training. When a reserve unit activates and deploys, the integrated I-I staff personnel deploy with the unit, and a small number of staff personnel remain at the Reserve Training Center to manage the Family Readiness Program and receive newly accessed personnel.

[204] In 2005, the Marine Corps reorganized their FSSGs into Marine Logistics Groups (MLGs).

3. MCR Headquarters Elements

Marine Forces Reserve (MARFORRES) Headquarters is established by law.[205] It is commanded by a Lieutenant General (active), who reports directly to the Commandant of the Marine Corps and serves as the Commandant's principal advisor on matters pertaining to the MCR. MARFORRES is an administrative, non-deployable headquarters that is responsible for exercising command over SMCR units. It is assisted by four Major Subordinate Command (MSC) Headquarters: 4th Marine Division, 4th Marine Aircraft Wing, 4th Marine Logistics Group, and 4th Force Headquarters Group. Each of these headquarters is administrative in nature but can provide personnel as IAs. MCR headquarters, manned with active duty FTS and with SELRES personnel, carry out Service Title 10 responsibilities and exercise command of subordinate units. When activated, SMCR units are under the command of the Commander, Marine Forces Command. Subordinate Headquarters, such as Regimental and Group level, are commanded by AC colonels and manned with active duty FTS and with SELRES personnel. These headquarters are operational and designed for deployment/employment.

4. Manning the MCR

Traditionally, the Marine Corps has deliberately developed SMCR unit structure to mirror the AC. Ensuring consistency between Active and Reserve capabilities provides the Commandant of the Marine Corps a desired flexibility for sourcing Combatant Commander force requirements. Inherent differences between AC 4-year active duty requirements and RC 6-year drilling obligations increase the longevity of junior Marines in grade. This difference in promotion flowpoints limits the number of prior AC non-commissioned officers (NCOs) that the RC can assess without adversely impacting the career progression of incumbent SMCR unit Reserve Marines. Conversely, the Marine Corps did not provide for the commissioning of RC lieutenants before 2006. As such, prior AC officers have historically filled SMCR unit billets normally assigned to more junior officers in the AC. In 2007, the Marine Corps implemented a program to produce Reserve second lieutenants who would have contract lengths similar to those of the AC, reversing this previous trend. Over time, the IDA research team anticipates that the SELRES officer grade inventory will closely mirror the AC, with the exception of pilots, who will continue to be sourced solely from prior AC aviators.

5. Training SMCR Units

Reserve units are routinely assessed by the same criteria used to evaluate their AC counterparts. They participate in the Field Supply and Maintenance Analysis Office (FSMAO) East/West and Force Readiness Assessment and Assistance Program (FRAAP) (MFR G-7). These tests/assessments are usually unannounced or given on short notice and occur over a 3-day drill period (Friday−Sunday). Each test includes a recall for the entire unit and packing and staging all

[205] *Marine Forces Reserve,* 10 USC §10173, July 2011, http://www.gpo.gov/fdsys/pkg/CPRT-112HPRT67344/pdf/CPRT-112HPRT67344.pdf.

equipment and supplies aboard local commercial transportation. Some tests involve the actual deployment of an entire company to a military installation that may be several hundred miles from the unit's home training center. Reserve units train continuously to a C1/C2 standard.[206] RC individual training requirements for rifle qualification, physical fitness test, combat fitness test, swimming qualification, and the Marine Corps Martial Arts Program are also the same as those for the AC.

6. Equipping the SMCR

Modern combat equipment and material readiness are essential in establishing an effective wartime capability. As an integral part of the Total Force approach, equipment modernization for the RC units is facilitated by using a single acquisition objective that considers AC and RC requirements. This acquisition objective provides initial issue quantities for all Reserve units, addresses sustainability for designated early deploying units through the first 60 days after being deployed, and considers equipment modernization. SMCR units typically maintain just enough unit equipment at their Reserve Training Centers to maintain a high level of training readiness. The remainder of their authorized equipment is provided upon activation and comes from either in-store resources maintained by the Marine Corps Logistics Command or from stocks that have been left behind by deploying AC units that will operate with forward deployed, pre-positioned equipment.

7. IMA Detachments

The IMA program provides trained and qualified individuals to fill time-sensitive billets in the AC wartime structure. Marine IMAs are assigned to active duty units in support of the nine operational Combatant Commands and other governmental agencies. IMA Detachments in the Operating Force provide trained staff officers and NCOs to support deploying units.

E. AC-RC Force Structure Changes FY2013–FY2017

The Marine Corps is programmed to reduce its AC personnel strength from 202,000 in FY2013 to 182,100 in FY2017, as shown in Table 14. The SMCR will be maintained at a strength of 39,600 during this period.

The Marine Corps has elected to achieve a reduction in AC strength by changing the AC and SMCR force structures. It plans to do so by inactivating some AC and RC units, moving

[206] C-Ratings are a unit assessment system specified in the Defense Readiness Reporting System (DRRS) to report unit readiness. The C-Rating is based on personnel, equipment and supplies on hand, and the state of unit training. The ratings range from C-1 (fully ready)) to C-5 (unready). See U.S. Government Accountability Office, *Military Readiness: Army and Marine Corps Reporting Provides Additional Data, but Actions Needed to Improve Consistency*, GAO-11-526 (Washington, DC: GAO, June 2011), http://www.gao.gov/new.items/d11526.pdf.

Table 14. Marine Corps Personnel Strengths, 1989−2017

	Marine Corps Personnel End Fiscal Year Strength or FTE							
	FY1989	**FY1993**	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	197,360	178,339	173,509	172,934	180,020	203,000	193,600	182,100
MCR	43,576	41,736	41,987	39,820	38,500	39,600	39,600	39,600
Total Military	**240,936**	**220,075**	**215,496**	**212,754**	**218,520**	**242,600**	**233,200**	**221,700**

Source: Appendix A of this document.

units from one component to the other, and, in a few cases, activating new units. Some of these changes are relatively minor but, in the aggregate, represent the Marine's view of how best to adapt to reduced funding and military strength authorizations while minimizing the reduction in combat capacity.[207]

The Marine Corps is making minor changes in the Command Element, as shown in Table 15. Under the new program, there would be three MEF and three MEB headquarters. There will also be substantial increases in CA groups and other direct support units.

Table 15. Changes in the Command Element FY2013–FY2017

	202,000 AC & 39,600 RC			182,100 AC & 39,600 RC			Difference	
Force Unit	**AC**	**RC**	**Total**	**AC**	**RC**	**Total**	**AC**	**RC**
MEF Command Element	3		3	3		3		
MEB Command Element	0		0	3		3	+3	
Marine Headquarters Group	3		3	3		3		
MEU Command Element	7		7	7		7		
CA Group		2	2		4	4		+2
Communications Battalion	3	1	4	3	1	4		
Intelligence Battalion	3	1	4	3	1	4		
ANGLICO	3	2	5	3	3	6		+1
Military Police Battalion	3	1	4	3	1	4		
Law Enforcement Battalion				3	1	4	+3	+1
Military Police Company	3	1	4	3	1	0	-3	-1

The next two tables show changes in the Ground Combat Element and Aviation Element. As shown in Table 16, two regimental headquarters, four infantry battalions, two artillery battalions, and other combat support units are eliminated from the AC and the RC Ground Combat Element.

[207] The results of the Force Structure Review Group (FSRG)) in Table 15, Table 16, Table 17, and Table 18 were provided by Marine Corps officials at a meeting on 14 November 2012 at the Marine Corps Combat Developments Command, Quantic, Virginia. The participants were Mr. Kevin G. Herrmann, Director, Total Force Structure Division (TFSD); Lt.Col Brian C. Keller, TFSD; Mr. James F. Keller, Operations Analysis Division (OAD); Maj. Jacob L. Reynolds, TFSD; Lt.Col. Garrett E. Means, Plans, Policies, and Operations (PP&O); Maj. Leslie T. Payton, Program Assessment and Evaluation (PA&E); Lt.Col. Andrew T. Ryan, Marine Forces Command (MFC); and Mr. Edwin G. Schroeder, MFC&E.

Substantial reductions are also programmed for the RC units in the Aviation Combat Element as shown in Table 17. The number of SMCR squadrons is reduced from 19 in 2013 to 17 in 2017.

Table 16. Changes in the Ground Combat Element, FY2013–FY2017

	202,000 AC & 39,600 RC			182,100 AC & 39,600 RC			Difference	
Force Unit	AC	RC	Total	AC	RC	Total	AC	RC
Infantry Regiment Headquarters	8	3	11	7	2	9	-1	-1
Infantry Battalions	27	9	36	23	8	31	-4	-1
Cannon Battalion Headquarters	9	2	11	7	2	9	-2	
Cannon Batteries	30	8	38	23	8	31	-7	
HIMARS Battalion Headquarters	1	1	2	1	1	2		
HIMARS Battery	3	3	6	4	3	7	+1	
Tank Company	10	6	16	8	6	14	-2	
AAV Company	11	2	13	8	4	12	-3	+2
Combat Engineer Battalion	3	1	4	2	1	3	-1	
Combat Engineer Company	10	4	14	8	5	13	-2	+1
LAR Company	15	6	21	12	6	18	-3	
Recon Company	12	6	18	9	6	15	-3	
Division Headquarters Battalion	3	1	4	3	0	3		-1
Truck Company	5	1	6	3	2	5	-2	+1
Military Police Company	3	1	4	0	0	0	-3	-1
Communications Company	3	1	4	3	1	4		

Table 17. Changes in the Aviation Combat Element, FY2013–FY2017

	202,000 AC & 39,600 RC			182,100 AC & 39,600 RC			Difference	
Force Unit	AC	RC	Total	AC	RC	Total	AC	RC
VMFA/VMA Fighter Attack Squadron	21	1	22	18	1	19	-3	
VMAQ EW Squadron	4	0	4	0	0	0	-4	
VMM Tilt-Rotor Squadron	18	2	20	16	2	18	-2	+2
HMH Medium Helicopter Squadron	9	0.5	9.5	8	1	9	-1	+0.5
HMLA Attack Helicopter Squadron	9	1	10	8	1	9	-1	
VMGR Aerial Refueling Squadron	3	2	5	3	2	5		
VMU Unmanned Aircraft Squadron	3	1	4	3	2	5		+1
VMFA FRS	3	0	3	2	0	2	-1	
Marine Wing Support Squadron	10	3	13	10	3	13		
Marine Air Control Group	3	1	4	3	1	4		
Marine Wing Support Group	3	1	4	0	0	0	-3	-1
Low-Altitude Air Defense Battalion	2	0	2	2	0	2		
Marine Tactical Air Command Squadron	3	1	4	3	1	4		
Marine Wing Communications Squadron	3	1	4	3	1	4		
Marine Air Support Squadron	3	1	4	3	1	4		
Marine Air Control Squadron	3	2	5	3	1	4		-1

Table 18 shows changes in the Logistics Combat Element. Functional battalions are converted into composite, multi-functional battalions designed to support a MEU or MEB. Also, the logistical regiments are eliminated as an echelon.

Table 18. Changes in the Logistics Combat Element, FY2013−FY2017

	202,000 AC & 39,600 RC			182,100 AC & 39,600 RC			Difference	
Force Unit	AC	RC	Total	AC	RC	Total	AC	RC
Headquarters Regiment	0	0	0	3	0	3	+3	
Headquarters Battalion	3	1	4	0	0	0	-3	-1
Military Police Company	3	3	6	0	0	0	-3	-3
EOD Company	3	0	3	3	0	3		
MEU Combat Logistics Battalion	1	0	1	7	0	7	+6	
DS Combat Logistics Battalion	8	0	8	7	2	9	-1	+2
CLC-33	1	0	1	0	0	0	-1	
GS Combat Logistics Regiment	3	0	3	3	1	4	+1	+1
GS Combat Logistics Battalion	0	0	0	5	2	7	+5	+2
Supply Battalion	3	1	4	0	0	0	-3	-1
Maintenance Battalion	3	1	4	0	0	0	-3	-1
Landing Support Battalion	0	1	1	0	0	0		-1
Motor Transport Battalion	0	1	1	0	0	0		-1
Engineer Support Battalion	3	1	4	3	1	4		
Bridge Company	3	2	5	2	3	5	-1	+1
Medical Battalion	3	1	4	3	1	4		
Dental Battalion	3	1	4	3	1	4		

Table 19 shows the mix of AC and RC military personnel in the operating and supporting forces. Between FY1989 and FY2009, the AC operating forces increased over 7,000, and the RC operating forces were reduced by 7,000. The supporting forces increased slightly, with the AC and the RC adding fewer than 800 Marines. This table does not show the civilian employees for each category.

F. Observations

Overall, the programmed adjustments in the Marine Corps force structure indicate a careful approach to making significant reductions in the operating force structure while preserving a high level of readiness. This approach is consistent with the goal of the Commandant to retain a high level of readiness for all Marine units—AC and RC—so that the Corps can fulfill its role as the Nation's immediate response force. It also reflects a willingness based on necessity and performance to rely on SMCR units and individuals as full partners in the enterprise.

The nature of operational integration has changed in recent years. In Operation Desert Storm, most of the SMCR Ground Combat Element was employed at the company or battery level to augment AC battalions. In OIF, much of the SMCR was employed at the battalion level

Table 19. Marine Corps Military Personnel Mix: FY1989–FY2009

Component	Year					
	1989	1993	1997	2001	2005	2009
Marine Corps Personnel in the Ground Combat Element						
AC	38,962	36,862	34,523	34,400	39,466	48,248
RC	17,684	17,095	16,049	16,199	15,750	14,819
Total	**56,646**	**53,957**	**50,572**	**50,599**	**55,216**	**63,067**
Marine Corps Personnel in the Aviation Combat Element						
AC	46,397	41,646	41,526	43,853	43,766	48,168
RC	7,625	7,062	4,429	4,271	4,610	4,267
Total	**54,022**	**48,708**	**45,955**	**48,124**	**48,376**	**52,435**
Marine Corps Personnel in the Logistics Combat Element						
AC	17,802	15,302	15,078	15,186	16,726	17,680
RC	9,759	8,680	9,679	9,163	8,368	8,633
Total	**27,561**	**23,982**	**24,757**	**24,349**	**25,094**	**26,313**
Marine Corps Personnel in the Marine Corps Special Operations Command						
AC	–	–	–	–	99	1,905
RC	–	–	–	–	–	16
Total	**–**	**–**	**–**	**–**	**99**	**1,921**
Marine Corps Personnel in the Marine Corps Security Forces						
AC	4,847	2,252	1,454	449	293	52
Marine Corps Personnel in the Marine Corps Embassy Security Force						
AC	1,421	1,385	1,314	1,307	1,377	1,348
Total Marine Corps Personnel in the Operating Force						
AC	109,429	97,447	93,895	95,195	101,727	117,401
RC	35,068	32,837	30,157	29,633	28,728	27,735
Total	**144,497**	**130,284**	**124,052**	**124,828**	**130,455**	**145,136**
Marine Corps Personnel in the Supporting Forces						
AC	32,105	32,111	32,993	31,229	31,606	32,787
RC	N/A	2,408	3,194	2,503	2,577	3,134
Total	**32,105**	**34,519**	**36,187**	**33,732**	**34,183**	**35,921**
Total USMC	**176,602**	**164,803**	**160,239**	**158,560**	**164,638**	**181,057**

Source: Captain Nick Pergar, Reserve Manpower Planner, Reserve Affairs Plans (RAP-21), Headquarters, U.S. Marine Corps, e-mail message on 28 December 2012.

Note for Table 19: For the **Marine Corps Personnel in the Supporting Forces**, the numbers include Marine Corps Combat Development Command, Recruit Depots, Marine Corps Logistics Command, Marine Corps Bases, Marine Corps Air Stations, Marine Corps Recruiting Command, United States Marine Band, I-I Staff, and Marine Corps Administrative Detachments.

to augment AC regiments and groups. In the current version of the Corps, the senior leadership appears to have substantial confidence in the ability of the SMCR, the IMAs, and the IRR to report quickly and reinforce and sustain the AC. This confidence is demonstrated by the process that the Marine Corps uses to size and shape its force structure.

1. AC-RC Mix Process

Headquarters, Marine Corps conducts a continuous Total Force Structure Process (TFSP) that starts with the existing force structure and then adjusts, as required, according to top-down guidance from the Secretary of Defense, the Secretary of the Navy, and the Commandant of the Marine Corps. The Marine Corps considers requirements for current operations, future scenarios, and constraints; weighs current capabilities; and determines gaps that force structure changes can address.[208] This process addresses the Marine Corps Total Force at the enterprise level, incorporating the many business processes associated with organizational change management. Adjustments to the AC-RC mix are one of the outputs of the TFSP, the focus of which is to achieve the necessary and directed capabilities in a timely manner while acknowledging the constraints of policy and resource availability.

The starting point for the TFSP and for other tools and analyses is the vision and guidance provided by the Commandant of the Marine Corps and other senior leaders. The end point is a modified force structure that has the numbers and kinds of units believed necessary to meet Marine Corps Title 10 requirements. The Marine Corps is designed to be a middle-weight force that can to respond to global crises from a posture of forward presence, implying a steady-state rotationally deployed active force. The focus is on the littoral areas and on opposed entry.[209] However, as the past 10 years have demonstrated, the Marine Corps can also engage in sustained land campaigns if necessary.

A key point of the TFSP and other processes and analyses is that the AC-RC mix is but one of many factors that shape the Marine Corps' Total Force structure. The MCR is neither operational nor strategic but, instead, is an integral component of the Marine Corps Total Force. The Marine Corps force planning, organization, and concept of employment within the Total Force construct does not support the assignment of specific mission sets to designated units, either active or reserve.[210]

The SMCR is designed to provide operational capabilities at the regiment and group level and below. SMCR units can be used as a standalone force or to augment, reinforce, or sustain the AC units or MAGTFs. The Marine Corps global force management process determines AC or

[208] Headquarters, Marine Corps, "Total Force Structure Process & AC/RC Mix," briefing (Arlington, VA: Total Force Structure Division, Combat Development and Integration (CD&I), November 2012).

[209] Ibid.

[210] Ibid.

SMCR sourcing based on mission requirements and on unit readiness, sustainability, and availability.[211]

2. Fundamental Policies

The fundamental policies that foster AC-RC integration in the Marine Corps include the following:[212]

- The mission of the MCR is to augment, reinforce, and sustain the AC.
- The organizational structure of the MFR Regimental and below units is consistent with that of an active MEF.
- SMCR units have the same structure, capabilities, and training as their active duty counterparts, which is called the "mirror image approach."
- Use of IRR Marines to fill Joint Manning Document billets (e.g., in support of OIF/OEF) reduces the burden on the AC and maintains unit cohesion in the AC.
- IMA Detachments are used within the Operating Force to provide trained staff augmentees to support deploying units.
- A substantial investment has been made in AC and FTS personnel who support the MCR.
- The Service equipping strategy stipulates that Active and Reserve units should have the same equipment.
- RC personnel are required to attend the same entry-level and advanced schools as AC personnel.

Finally, the most important feature of the AC-RC mix in the Marine Corps is the strong support of the Commandant and other senior leaders, who regard the MCR as an essential part of the Marine Corps Total Force.

[211] Headquarters, Marine Corps, "Future Role of the Marine Corps Reserve," briefing (Arlington, VA: Marine Corps Plans, Policy & Operations Directorate, 1 September 2010).

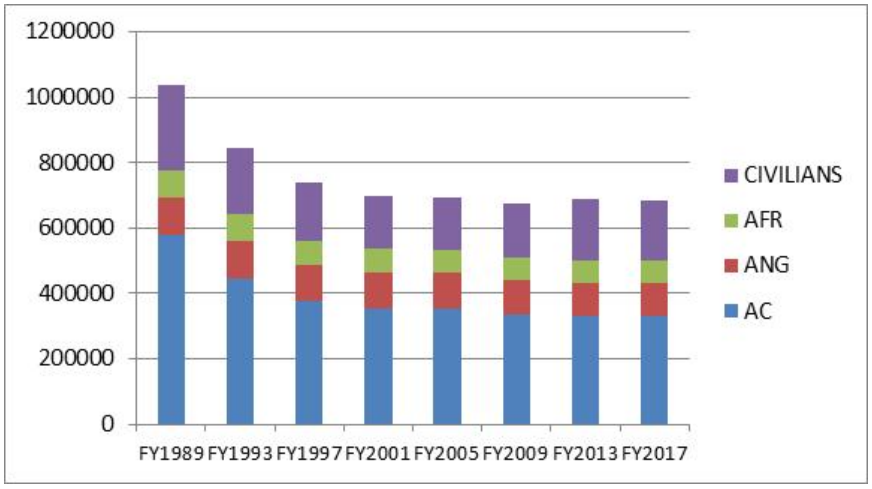
[212] Ibid.

5. The AC-RC Mix in the U.S. Air Force

This chapter briefly summarizes the evolution of the ARC since its inception, the integration of the ARC into the Air Force over the last two decades, factors influencing that integration, the current mix of AC-RC personnel, major commands, and aircraft, and the transition of the ARC from a standby strategic reserve to an operational force. The chapter concludes with observations about the integration of the Total Force Enterprise, Active Component (RegAF), Air Force Reserve, ANG, and the outlook for the future force structure.

A. Introduction

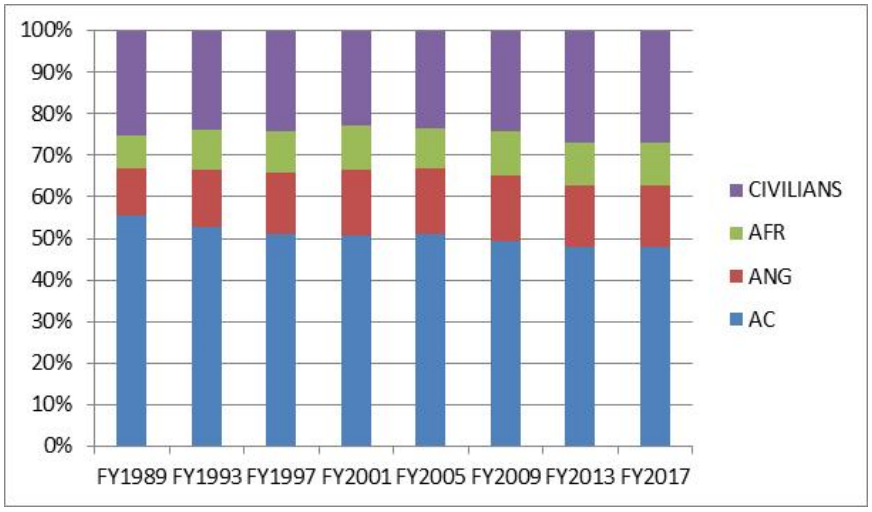
Air Force military personnel strength has declined since the end of the Cold War in 1989, and the RegAF has been affected a larger percentage of this reduction than the ARC. Figure 23 shows the personnel strength, and Figure 24 shows the mix of personnel from FY1989 to FY2017.



Source: Appendix A of this document.

Figure 23. Air Force Personnel Strength by Component, FY1989–FY2017

The ANG and AFR together constitute the ARC, which, during most of this period, has provided about one-third of Air Force military strength. Since the end of the Cold War, total Air Force personnel strength has decreased from just over 1,000,000 to about 685,000—a reduction of about one-third. During this period, RegAF military personnel have provided about half of the



Source: Appendix A of this document.

Figure 24. Proportion of Air Force Personnel by Component, FY1989–FY2017

total strength, ARC military personnel about one-quarter, and civilians about one-quarter. For FY2013 and beyond, the programmed strength shows a slight increase in civilians and a corresponding decrease in RegAF military personnel.

B. Evolution of the ARC, 1947–1989

When the Air Force became an independent Military Service in 1947, it had a very large RC (i.e., the AFR) left over from World War II and a smaller National Guard component (i.e., the ANG). These two components evolved along different paths. The ANG was and is very entrepreneurial—quick and eager to add new missions somewhat independent of the RegAF. The AFR has remained closer to the RegAF. Today, the relationship among the three Air Force components remains strong, but reduced funding and fewer aircraft have, consistent with historical tendencies, produced competition for resources that affect the AC-RC mix.

1. Creation of the Air Force Components and Earliest Employment

During the Mexican Border Crisis of 1915, Captain Raynal Cawthorne Bolling organized and took command of a unit that became the 1st Aero Company, New York National Guard. It trained at Mineola Field in Long Island. It is recognized as the ANG's oldest unit.[213] By 1940, the National Guard had 29 observation squadrons with 5,000 personnel. The first independent ANG unit was formed in 1946—a year before the birth of the USAF as a separate service.[214] In 1947, the Army Air Forces were transferred out of the Army and became a separate Military Service. The AFR

[213] Air National Guard Website, "ANG Heritage: Missions, Wars and Operations," http://www.ang.af.mil/history/heritage.asp.

[214] Richard H. Kohn, foreword in *Prelude to the Total Force: The Air National Guard, 1943–1969*, by Charles Joseph Gross (Washington, DC: Office of Air Force History, 1985), vi.

was created in 1948, with 400,000 members. In response to the Korean War, 147,000 Air Force reservists were mobilized for 1- to 3-year tours between 1950 and 1954. Despite a low state of readiness and the need for several months of post-mobilization training, most ANG units were mobilized, and 80 percent of ANG personnel were called to duty for the Korean War.

2. The Cold War and Vietnam

During the 1950s and into the very early 1960s, the AFR was considered to be a strictly strategic reserve force that would only be called up for wars and major national crises such as the Berlin Airlift and Cuban Missile Crisis.[215]

The Eisenhower Administration's determination to hold down defense expenditures and rely heavily on reserve forces, as well as the fallout from poorly planned mobilizations in 1950 and 1951, led the RegAF to acknowledge "the political, budgetary, and military costs of neglecting the air reserve."[216] In 1952, the Chief of Staff of the Air Force stated that ANG was an "integral and vital part of the Air Force."[217] ANG units started participating in exercises with RegAF units, and the RegAF added ARC units to the war plans. In the 1950s, the ANG improved its readiness and its integration with the RegAF and began to acquire more missions that it could perform effectively in peacetime on a continuing basis. The ANG has been performing air defense alert operations since 1953.[218]

ARC budgets, manpower, and capabilities grew steadily in the 1950s. The Armed Forces Reserve Act of 1952[219] strengthened the influence of reserve officers in Service planning processes and further signaled strong Congressional support for the RC.

The evolution of the ARC role in this period was driven in large measure by fiscal realities. The States wanted Federal money, and the RegAF needed the assets Congress would not fund for the AC but would buy for the more influential RC. The Eisenhower Administration had cut the Air Force FY1954 budget proposal passed down from the Truman Administration by $5 billion (roughly $40 billion in 2012 dollars) and shifted 1,200 aircraft from the RegAF to the ARC. Consequently, in 1955, the Air Force adopted a requirement that ARC tactical flying units had to be trained and equipped to achieve an immediate combat capability upon mobilization. In 1957, the Air Reserve Forces Review Committee called for refocusing the ARC—from preparing to back up the RegAF in a major conflict to providing ongoing, peacetime support of the RegAF. Greater

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[215] Air Force Reserve Command Website, "Timeline 1948–1969," http://www.afrc.af.mil/AboutUs/AFRCHistory/Timeline1948-1968.aspx.

[216] Charles J. Gross, *Prelude to the Total Force: The Air National Guard, 1943–1969* (Washington, DC: Office of Air Force History, 1985), 73.

[217] Ibid. 80.

[218] Ibid., 61–78.

[219] Armed Forces Reserve Act of 1952, Public Law 476, 9 July 1952.

use of the ARC to support everyday activities of the RegAF was the only way to field the needed capacity for air operations.

During the 1961–1962 Berlin Crisis, one-third of the ANG was mobilized as a show of resolve. While the ARC was better prepared than it had been for the Korean War, it was still limited in operational capability and required extensive RegAF support. In effect, the ARC was still "manned, organized, and equipped for training rather than immediate operational roles."[220]

Fewer, but more modern aircraft were provided to the ARC in the first half of the 1960s, with missions expanding beyond air defense and transport to include tactical fighters, recon, and aero medical evacuation The ANG added long-range transport aircraft to its inventory in 1960. However, later on, the demands for aircraft to replace losses in Vietnam meant fewer new aircraft for the ARC.

Throughout the remainder of the 1960s, spurred on by the ANG, the ARC grew in numbers, realized weapons modernization, and continued to achieve greater capability, operational readiness, and integration with the RegAF. The Air Technician program proved successful in the ANG and was expanded to the AFR.

Organizationally, ARC members were assigned to the Air Staff and major RegAF commands, and the integration of the ARC with the RegAF and RegAF support for the ARC improved. The ARC's influence was raised by the addition of an Assistant Chief of Staff for Reserve Forces to the Air Staff. The RegAF abandoned efforts to eliminate the State character of the ANG, while the ANG leadership convinced the States of the advantages of integrating the ANG into the RegAF as reserves rather than just as State air forces.

The Air Force's high degree of force integration today dates to events of the 1960s when the basic terms of the relationship between the ARC and the RegAF were largely settled.[221] In fact, in 1963, the Air Force began using the term "Total Force," stating that it had a Total Force Policy, a policy not adopted by DOD until 1973.[222] Reflecting this integration and the operationalization of the ARC, Air Force Regulation 45-60, issued in the same year, changed the objective of the ARC from "M-Day forces" that would build up and train after mobilization to serve in a major conflict to forces that would be postured for immediate availability. The regulation stated that the new "objective of the Air Reserve Forces program is to provide operationally ready units and trained individuals that are immediately available to augment the active duty establishment ..."[223]

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[220] Gross, *Prelude to the Total Force*, 122.

[221] Ibid., 91–102, 111.

[222] Ibid., 166–167.

[223] Ibid., 147

In 1964, for the first time, ARC units deployed to Europe for what has become annual field training. In this same period, ARC units began participating in RegAF and Joint exercises and expanded their role in air defense.

Secretary of Defense Robert S. McNamara supported improved reserve readiness and, in 1965 created a SELRES Force that would have additional paid training time. These DOD efforts were largely focused on improving ARNG and USAR readiness, but the additional funding also allowed the RegAF to raise ARC readiness. In 1965, General Winston Wilson, Chief of the National Guard Bureau, testified before Congress, that "… within the past three years, our units have been transformed from primarily a training status to that of a ready and global force fulfilling operational missions on almost daily basis."[224] In FY1965, ANG transports flew 1,469 missions overseas to South Vietnam, Japan, and Europe. In 1966, ANG units passed 22 out of 23 RegAF Operational Readiness Inspections,[225] and all ARC SELRES units were rated fully combat ready or combat ready with minor deficiencies.[226]

Continuing these trends, the demands of the escalating war in Vietnam "compelled the Air Force to integrate ANG personnel more fully into its routine operations."[227] RegAF pilot shortages due to Vietnam led to the encouragement of ARC members to volunteer for temporary active duty overseas in non-Vietnam locations, in keeping with President Johnson's policy of not using the reserves in Vietnam. While ARC units began to train through "live scheme" projects, such as repairing equipment at RegAF bases, ARC fighter aircraft did not provide direct support to operations in Vietnam before 1968.

The *Reserve Bill of Rights and Vitalization Act of 1967* required Congress to authorize reserve strength annually, specifically precluded an ANG-AFR merger, gave statutory protection to the Office of Assistant Secretary of the Air Force for Manpower and Reserve Affairs, and created an Office of Air Force Reserve to work directly with the Air Staff, replacing the Assistant Chief of Staff for Reserve Forces who had managed both ARCs.[228]

In 1968, the Air Force, to further its Total Force concept, adopted the *associate unit* concept in which a RegAF squadron and an AFR squadron would share the same large transport or refueling aircraft.[229] The AFR had started the decade with old transports, but, as the RegAF needed more assistance during the expanding Vietnam War, the AFR provided volunteers to fly strategic airlift aircraft into the Vietnam Theater and to perform duty elsewhere to help the RegAF operations tempo (OPTEMPO).

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[224] Ibid., 148.

[225] Ibid., 153.

[226] Ibid., 143–153.

[227] Ibid., 150.

[228] Ibid., 155.

[229] Air Force Reserve Command Website, "Timeline 1948–1969."

Also in 1968, the Pueblo crisis and the Tet Offensive in Viet Nam caused mobilization of some ARC members, who reported and were ready to deploy but were never sent overseas. This experience caused the RegAF to modify the way it made use of the ARC. The Air Force found that it usually needed to call up some aircraft and some aircrews and support personnel but not an entire squadron or wing. The RegAF made changes in organization and procedures so that it would be possible to mobilize and use parts of an ARC Wing (including some support personnel) but not an entire wing. This approach has since become the standard operating procedure for using RegAF and ARC aircraft.

Later in 1968, ARC units started serving in Vietnam, integrating with the RegAF, and flying combat sorties for 11-month tours. The readiness of these ARC units was reflected in comments by the RegAF Commander in South Vietnam, who praised ARC F-100 squadrons as the best of their kind and with more experienced aircrews and maintainers.[230] ARC units also deployed to other theaters and performed missions to relieve RegAF OPTEMPO stress from Vietnam. By the end of the 1960s, the ARC had expanded into most tactical aviation missions and was accomplishing many worldwide transport missions.

3. The 1980s

Aircraft in the ARC were modernized in the 1980s. Modern fighters, KC-10 tankers, and C-5 transports were added to the inventory. ARC elements continued to serve as an operational reserve for air defense. In 1986, AFR tankers refueled RegAF F-111 bombers en route to bomb Libya.[231]

By the end of the Cold War in 1989, the relationship between the RegAF and the ARC featured close integration and routine use of ARC volunteers to perform operational missions. However, while the RegAF enthusiastically accepted the reservists for support roles, it was not as enthusiastic about their use in combat roles. The extent of reliance on Reserve volunteers differed significantly by major Air Force command, as follows:[232]

- The Military Airlift Command (MAC) had achieved the greatest degree of integration. RegAF and ARC air crews were used interchangeably and routinely for transport and refueling missions. This close relationship grew, in part, from the establishment of associate units.
- The Strategic Air Command (SAC) did not permit ARC units to participate in its bomber or missile missions; however, it did allow the ARC to participate in the aerial refueling mission, albeit with reservations.

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[230] Gross, *Prelude to the Total Force*, 158–160.

[231] Air Force Reserve Command Website, "Timeline 1969–1989," http://www.afrc.af.mil/AboutUs/AFRCHistory/Timeline1969-1989.aspx.

[232] This information in the remainder of this section is based on Brinkerhoff, "Guard and Reserve Combat Units in the Persian Gulf War," appendix D, IDA Document D-1708, 10–15.

- The Air Defense Command (ADC) was the original sponsor for ARC flying units. In 1954, the ANG was assigned a permanent CONUS air defense mission, and some modern fighter-interceptor aircraft were made available for this mission. Toward the end of the Cold War, the air defense mission diminished in importance, but the manner in which the ANG had carried out the air defense mission persuaded some Air Force leaders that the ANG could contribute to the tactical combat mission.
- The Tactical Air Command (TAC) was opposed to ARC integration. The poor initial readiness of the 66 ARC fighter squadrons activated for the Korean War had created a long-lasting impression that ARC flying fighter units were not ready. This feeling was alleviated to an extent after 1973 when the ARC began to operate newer, more up-to-date aircraft. When equipped with modern fighter aircraft, ARC tactical fighter units showed that their more experienced pilots—with less training—could fly as well or better than RegAF pilots, albeit on a smaller range of missions. However, many RegAF TAC leaders continued to doubt the value of AFR tactical flying units.

The RegAF's partial acceptance and partial rejection of the ARC was affected and greatly changed by the first conflict of the post-Cold War era, Operation Desert Storm.

C. Air Force Integration from 1989–2013

Operation Desert Storm and its follow-on campaigns had great impact on the integration of the RegAF and the ARC and on the evolution of the ARC into an operational reserve. Most of the ARC has been used as an operational reserve since the First Gulf War.

1. Operation Desert Storm

ARC performance in Operation Desert Storm (1990–1991) set the tone for subsequent operations. Many ARC members volunteered or were mobilized to serve on active duty, and about 40,000 were deployed to SWA. Many IMAs were mobilized to serve and assist in CONUS. As the buildup for Operation Desert Storm began, MAC and SAC needed ARC crews to meet the heavy demands for mobility and refueling. General Robert D. Russ, Commander of TAC and an advocate for AC-RC integration, took action to obtain ANG tactical reconnaissance aircraft, and six ANG RF-4 aircraft operated by volunteers deployed to Saudi Arabia in August 1990. TAC, however, had more than enough RegAF tactical fighter squadrons to deal with Iraq, and there was competition among the RegAF units as to which of them would be deployed for this campaign. So initially, there was no thought of using ARC fighter units. However, General Russ wanted to give ARC fighter units a chance to show what they could do. He selected three ANG tactical fighter squadrons to deploy—two with F-16s and one with A-10s. They were alerted on 4 December 1990, deployed in early 1991, and flew combat missions for the duration of the campaign. One ARC A-

10 aircraft downed an Iraqi helicopter in what was the first air-to-air victory of the operation.[233] The ARC aircrews that were deployed flew alongside their RegAF counterparts and soon became indistinguishable from them. Their excellent performance paved the way for better relations and even more integration for tactical fighter units in subsequent air operations.[234]

After the cease fire of Operation Desert Storm, almost every F-16 and F-15 unit in the ANG deployed to the Middle East to help enforce the no-fly zones over northern and southern Iraq. ARC airlift and tanker aircraft supported these operations. In 1997, the AFR, in recognition of its growing role as an operational reserve, became the Air Force Reserve Command (AFRC), the Air Force's ninth major command.[235] Units participated in Balkans no-fly zone enforcement and Operation Allied Force.

2. Operations Subsequent to 9/11

The ARC has played an important part in the campaigns in Iraq, Afghanistan, Syria, and the Horn of Africa. On September 11, 2001, ANG fighters and ANG and AFR tankers responded immediately during the terrorist attacks in New York (World Trade Center) and Washington (the Pentagon). Subsequently, the ARC conducted Operation Noble Eagle, flying homeland security operations and air sovereignty alert missions 24 hours per day for 365 days per year.[236]

As the nation went to war in Afghanistan and Iraq, operational use of the ARC continued to increase. ANG airlift squadrons, air refueling squadrons, rescue units, air operations groups, medical groups, security forces squadrons, and civil engineering squadrons, among others, mobilized in support of overseas contingency operations. The ANG provided from 20 to 40 percent of the air capabilities in the initial phase of the Afghanistan campaign.[237] AFR A-10s, B-52s, F-16s, and C-17s, along with a full range of support personnel, were operational during the first hours of the air campaign to bring down Saddam Hussein.[238] Many ARC personnel subsequently served as security forces and performed staff and special duties to relieve OPTEMPO stress on Army personnel during the Iraq and Afghanistan campaigns.

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[233] Air Force Reserve Command Website, "Timeline 1990–1999," http://www.afrc.af.mil/AboutUs/AFRCHistory/Timeline1990-1999.aspx.

[234] For a more detailed account of ARC performance in Operation Desert Storm, see John C. F. Tillson et al., *Reserve Component Roles, Mix, and Employment*, IDA Document D-1708 (Alexandria,VA: Institute for Defense Analyses, May 1995).

[235] Air Force Reserve Command Website, "Timeline 1990–1999."

[236] Brinkerhoff, Adams, and Magruder, *National Guard and Reserve Participation*, 49–50, 55.

[237] Ibid., 52.

[238] Air Force Reserve Command Website, "Timeline 2000 To Present," http://www.afrc.af.mil/AboutUs/AFRCHistory/TImeline2000-Present.aspx.

D. Factors Favoring AC-RC Integration

The high degree of AC-RC integration in the Air Force is enabled by a confluence of several factors that create a climate favorable to teamwork. The combined effect of the these factors is a more integrated Air Force that is able to operate more effectively in war and to use the ARC on a regular basis in peacetime to accomplish Air Force operational missions.

1. Use of ARC Volunteers for Operational Missions

The Air Force prefers to rely on voluntary rather than on involuntary mobilization for rotational purposes. Relying on volunteers is feasible for the Air Force because RegAF and ARC units rarely employ all of their assets and personnel at once. This practice enables the use of volunteers rather than relying on involuntary mobilization when it is necessary to tap a relatively small number of assigned personnel from a wing. An ARC tanker squadron with over a dozen tankers may be called on to deploy just two or four aircraft. It is also possible, although rare, to obtain volunteers from other wings. If the mission is of long duration, the ARC detachment can rotate other personnel and aircraft from the parent wing, or an ARC unit from another wing may replace it. This ability to substitute and mix personnel and aircraft allows the ARC to rotate volunteers to meet requirements.

In recent operations, the majority of ARC personnel have served on volunteer orders.[239] Many of those who were ordered to active duty involuntarily were actually volunteers. It is estimated that 72 percent of ARC members on involuntary mobilization orders in recent campaigns were really volunteers.[240] The involuntary mobilization orders can provide some protection against the loss of civilian jobs or spousal complaints. In some cases, ARC members volunteered, but received involuntary mobilization orders anyway. Involuntary active duty was usually for 6 to 8 months, while voluntary active duty tours tended to be shorter, sometimes as brief as just 2 weeks.

Volunteerism allows for a more frequent and reliable use and integration of the reservists and improves their retention and satisfaction.[241] A major finding of IDA's work for the 2010 QRMC was that ARC airmen strongly prefer volunteerism. Volunteerism makes it possible for ARC members to select a form of service that fits their civilian job schedules. It was found that 75 percent of ARC members preferred to go on active duty more than fulfilling the mandatory minimum number of 39 training days per year. It is also estimated that 86 percent of ARC members

[239] USAF Lt.Col. Lee, 9 November 2012, QRMC meeting at IDA; interview with Major Sean Conroy, NGB.

[240] Drew Miller, "Air Force Reserve Component Interest in Serving as an Operational Reserve," working paper for the 11th Quadrennial Review of Military Compensation (QRMC) (Alexandria, VA: Institute for Defense Analyses, July 2011).

[241] Defense Manpower Data Center (DMDC), "Leading Indicators Briefing," 2009 Status of Forces Survey, March 2010.

deployed overseas in the past 5 years would have volunteered if asked to do so.[242] Another factor is that a large proportion of the ARC is retirement-eligible and able to retire if involuntary mobilization authority is used.[243]

2. Associate Units

Since 1968, the Air Force has used associate units to share aircraft/systems and reduce overhead costs. In the associate unit concept, a host unit "owns" the aircraft, weapons systems, or mission, and an associate unit shares in its operations. Table 20 shows three forms of associate units.

Table 20. Kinds of Associate Units

Unit	Concept
Classic	Host unit is RegAF. The associate unit is ANG or AFR.
Active	Host unit is ARC. The associate unit is RegAF.
ARC	Host unit is one of the ARCs. The associate unit is the other ARC.

The classic associate unit model pairs a RegAF squadron with an ARC squadron. This model was introduced in 1968 to increase the crew-to-aircraft ratio and, thereby, increase the sortie-generating capability of large aircraft. Two units from separate component chains of command share the same aircraft. The RegAF personnel are responsible for the aircraft/systems, and RegAF and ARC air crews and support personnel generate sorties.

The ANG 273rd Information Operations Squadron is an example of how an associate unit can function. The RegAF 23rd Information Operations Squadron and the 346th Test Squadron are the hosts. They evaluate cyber and information operations tests and tactics used for analytical purposes. The ANG associate unit has 12 full-time and 40 part-time reservists. The reservists have an average of 7 years of experience. They spend an estimated 60 percent of their man-hours in support of RegAF unit operations and provide long-term continuity, while the RegAF units maintain the equipment and facilities.[244] The reservists devote the remainder of their time to training and administrative requirements.

An Active Associate unit reverses the roles. An ARC unit is responsible for the aircraft, systems, and missions, and a RegAF unit shares the aircraft, systems, and missions. For a RegAF squadron attached to an ARC Wing, the benefits of this approach include better training, more

[242] Drew Miller, "Air Force Reserve Component (ARC) Interest in Serving as an Operational Reserve and Contracting for More Frequent Deployments," informal paper (Alexandria, VA: Institute for Defense Analyses, July 2011).

[243] About 26 percent of ANG officer corps and 22 percent of ANG enlisted have enough years of service to qualify for retirement.

[244] Drew Miller, "IDA Survey of Cyber Units," briefing (Alexandria, VA: Institute for Defense Analyses, 2012).

access to aircraft, and possibly the ability to take ARC aircraft on longer deployments than reserve personnel would be willing or able to do.[245]

The Air Force now also has ARC Associate units in which ANG and AFR units share assets and missions.

The Air Force has associate units for the most modern aircraft in the inventory—the F-22—and has plans to employ associate units for the F-35, the New Tanker, and the Next Generation Bomber.[246] The Associate unit model was popular and its use expanded rapidly in the early years of the 21st century, but its growth has slowed in recent years because of budget uncertainties.[247]

3. Blended Units

A blended unit is one in which ARC and RegAF squadrons are integrated into the same wing, either RegAF or ARC, with one operational command structure. This arrangement makes it easier to access ARC personnel and offers less cost and duplication than Associate units that share aircraft, systems, and missions between separate AC and RC units. Blended units can reduce some of the considerable overhead required to operate a Wing headquarters. Some Air Force writings have recently begun using the term "Integrated Associate," in which members of all components contribute to one unit mission, with personnel from each component under separate administrative control (ADCON). Potentially, another option would be fully integrated units, in which personnel from different Air Force components are in one organization with the same operational chain of command. While disciplinary and legal issues can arise, blended units offer new ways to make use of the ARC. The Air Force is no longer pursuing creation of additional blended units.[248]

An example of the blended or integrated unit model is the arrangement between the 55th RegAF Wing at Offutt Air Force Base (AFB) and the Nebraska ANG. Guardsmen are completely integrated into the operations of the 55th Strategic Reconnaissance Wing. They run the training operation (where their experience and longevity adds great value), provide personnel to fly missions with mixed RegAF-ARC crews, and provide experienced intelligence specialists. There is separate ADCON for the small Nebraska ANG squadron at Offutt AFB, but day-to-day operations are completely controlled by the 55th Wing RegAF staff. When a RegAF airman retires or needs to leave full-time work for personal reasons, the airman, with the approval of the 55th

[245] Brig. Gen. Donald A. Haught, Col. Dennis Grunstad II, Lt.Col. Eric "Otter" Mayheu, "Beyond Two Aircraft in Theater," 153rd Airlift Wing (ANG) briefing. Cheyenne, WY: Wyoming National Guard, 2010; Col. Drew Miller, "Program Evaluation of Nebraska ANG Support to 55th Wing" (Washington, DC: A8FX Total Force Integration Office, October 2006).

[246] Air Force Reserve Command Website, "Timeline 2000 To Present."

[247] IDA interviews with Air Force officers on the Air Staff, 2011–2012.

[248] USAF comments on the draft version of IDA Document D-4968, 5 June 2013.

Wing and the Nebraska ANG, can transfer to the Nebraska ANG, so his or her expertise is retained.[249] This approach may be a cost-effective way to use RC personnel.

4. Total Force Integration (TFI)

In 2004, the RegAF initiated a TFI program to increase the number of associate units and discover new forms of AC-RC integration. A new Air Staff office was established to develop and promote TFI. Potential Air Force missions and options were considered. In May 2007, the Air Staff office developed and published Air Force Instruction 90-1001, which provided rules, roles, responsibilities, and procedures for preferred forms of integration.[250] Between 2007 and 2009, legal barriers to integration were identified, and efforts to fix them were pursued.[251]

5. Experienced Personnel

One of the benefits of increased use of the ARC—and particularly the associate units—is the opportunity to leverage the ARC members' greater experience. The ARC has a large number of prior-service personnel who have considerable experience. The average ANG officer force has four more commissioned years of service than the RegAF officer force. The ANG officer's average rank exceeds that of the average RegAF officer by approximately a full grade. ANG enlisted personnel average 4½ years more service than RegAF enlisted personnel. As of June 2010, 59 percent of pilots in RegAF fighter squadrons were experienced (based on cumulative flying hours for specific systems) compared to 90 percent in the ANG and 95 percent in the AFRC.[252] ARC crews are used to train less experienced RegAF crews and raise their overall readiness level. The Vermont ANG piloted a program that takes RegAF junior enlisted mechanics from Virginia and trains them in Vermont, where they work with senior ANG mechanics and move rapidly to higher skill levels. These mechanics return afterwards to their RegAF bases.

6. IMA Program

IMAs are individual reservists assigned to RegAF or CCMD headquarters units. The IMA program is the most integrated AFR program. However, the IMA program has been given less support and funding recently, and, as a result, some RegAF organizations have moved to convert their IMA programs to AFR units to obtain more AFR funding and support. Today, the ARF has

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[249] Miller, "Program Evaluation of Nebraska ANG Support to 55th Wing."

[250] Air Force Instruction 90-1001, "Total Force Integration" (Washington, DC: Department of the Air Force, AF/A8X, 29 May 2007).

[251] Col. Vince Fagan, "Total Force Integration," briefing (Washington, DC: HQ USAF, 1 February 2009).

[252] Air Force Audit Agency, "Implementing Combat Air Forces Total Force Integration," Audit Report (Washington, DC: AFAA, 21 October 2010), 4.

fewer IMAs than it did at the end of the Cold War. As of June 2013, there were 8,974 serving IMAs, representing about 13 percent of AFR military personnel.[253]

7. Air and Space Expeditionary Force (AEF) Program

The Air Force adopted the AEF program in 2000 to provide the regional combatant commanders balanced expeditionary packages of air combat power on a rotational basis. Ten AEFs were created, of which two were to be ready at any time. In the AEF program, units and subunits from the Air Force administrative chain of command are assembled into expeditionary units in the operational chain of command. In effect, AEFs are pre-planned, task-organized packages of air combat power. The AEF concept has been used to manage the readiness and flow of Air Force units to CENTCOM area of operations from 2001 to the present. The AEFs included RegAF and ARC units from the outset.

8. ARC Initiatives

Over the past decade, many ARC units have taken the initiative to propose and establish arrangements to improve the efficiency of operations through integration or by filling capability gaps. Three examples illustrate this practice:

- The Nebraska ANG formed a training squadron in the RegAF's 55th Wing at Offutt AFB.[254]
- The Delaware ANG formed a cyber unit in 2005, well before the Air Force and DOD advocated dedicated cyber units. This initiative began as an effort to form a finance unit; however, because of delays in obtaining approval, the mission was changed to cyber. The 166th Information Operations Flight was activated in May 2005 and was later renamed the 166th Network Warfare Squadron.[255]
- The AFR responded to the need for more cyber capability by arranging funding for 63 days of ARC service a year for their cyber warriors rather than the minimum 39 days.[256]

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[253] Air Force Reserve Snapshot, "A Summary of Facts and Figures about America's Air Force Reserve," June 2013.

[254] Miller, "Program Evaluation of Nebraska ANG Support to 55th Wing."

[255] Interviews with the 166th unit, meeting with then Col. Tom Thomas in December 2006 at a U.S. Strategic Command (STRATCOM) Global Innovation Strategy Center workshop on Threat Finance; Benjamin Matwey, "Information Operations Unit Stood Up," *The DANG Truth*, July 2005, 6.

[256] Business Case Analysis, "Total Force Integration, 24th Air Force, 624th Operations Center (AFSPC)/Reserve Associate Unit (RAU), Air Force Reserve Command, Lackland AFB, TX" (Peterson AFB, CO: Air Force Space Command A8, January 2011).

9. The Gaining Command Concept

A key enabler of ARC-RegAF integration is the Gaining Command concept of reserve force management in which an ARC unit knows in advance the RegAF command to which it will report when called up. The ARC unit trains and organizes to meet the standards of its RegAF counterpart to be able to accomplish that command's mission.[257] The Gaining Command approach that formerly anticipated a wartime partnership upon mobilization has evolved into a day-to-day operational relationship.

10. FTS Personnel

Two key enablers of the operational use of ARC units are having key personnel and aircrews serve more than the minimum number of days for a "good year" qualification for retirement benefits (39 days) and having a high percentage of full-time personnel in ARC units (AGR or Air Reserve Technicians (ARTs)). Both forms of longer serving personnel are vital for enabling the day-to-day full-time operations of RC units. Traditional reservists receive excellent training from the full-time personnel, and their daily presence is vital for maintaining high readiness and rapid (within 72 hours) deployment capability. The full-time staff—about 20 percent of the ARC—provides experience and continuity. ARC aircrew members are sometimes required to sign an agreement to serve more than the minimum number of training days to maintain their readiness and to enable the unit to fly more operational missions. ARC cyber members who also want to serve on the U. S. Cyber Command Cyber Mission Force teams will likely be required to agree to longer periods of service.[258]

11. Formation of Expeditionary Units

The AEF program makes it possible for ARC units to take turns with other ARC units to fulfill an extended ANG or AFR deployment. For example, three ARC units can rotate their sub-elements to meet a 180-day rotation requirement, and each ARC unit can rotate its personnel in and out during its tours. Another variation is for flights of aircraft from three squadrons to unite and form a full expeditionary squadron for a given mission. Although this practice incurs additional costs for pre-deployment training, it provides additional capability for the Air Force.[259]

12. Ability to Fly Short Missions from Home Stations

The nature of aircraft and space makes it easy for ARC unit members to train and contribute to RegAF operations over drill weekends or during annual training. The Air Mobility Command can schedule ARC tankers or transports into its operations in place of RegAF units. ARC missile, space, intelligence, cyber, and other special units can perform operational missions from their

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[257] Gross, *Prelude to the Total Force*, 168.

[258] IDA interviews of Air Force Cyber Force Managers, December 2013–March 2014.

[259] USAF comments on the draft version of IDA Document D-4968, 5 June 2013.

home bases, nearby RegAF bases, or at Reserve Intelligence Centers. ARC units can provide remote service or reach-back support from their home bases. Members of an ARC intelligence unit or IMAs at a RegAF unit or CCMD headquarters can work during drill weekends or short periods of MPA man-days. ARC readiness is also enhanced by the units' ability to provide realistic training and to contribute to RegAF operations—even from small, remote bases.

13. Common Operational Standards and Readiness Levels

The long-standing policy that ARC units and personnel must meet RegAF readiness levels has been a key factor enabling the growth in ARC roles and missions. Having substantial full-time unit support personnel and conducting training by performing operational missions contribute to the ability of ARC units and individuals to meet the same operational standards and readiness levels as the RegAF. ARC personnel must be medically ready before they are allowed to perform their annual training and/or meet the requirement for a "good year" of reserve performance that allows them to receive credit toward retirement. This policy makes it possible for most ARC units or individuals to deploy within 72 hours of being alerted and to fit in easily with other elements of an expeditionary wing.

14. Budgeting for Man-Days

Each member of the SELRES is fully funded for the minimum requirement to perform 39 days of training per year. Additional duty time for training or operational duties over 39 days must be paid out of other accounts. The Air Force includes in its Military Personnel Account (MPA) funds for additional man-days for ARC units and members, which allows the Air Force to obtain a significant amount of work from ARC personnel. A RegAF or ARC unit may ask for man-days to pay for full-time work. Historically, this system has produced about 5,000 man-years of ARC support annually for the entire RegAF; but the number of man-years has been much greater in recent years because the ARC personnel were paid for out of OCO funds.[260] Since FY2014, the Air Force has allowed Air Force Major Commands (MAJCOMs) and budgeting entities to program for the number of man-days that they think they will need rather than having to maneuver to obtain a share of a fixed number of man-days.[261]

[260] IDA interviews; U.S. Air Force, white paper, "USAF Force Structure Changes: Sustaining Readiness and Modernizing the Total Force" (Washington, DC: Headquarters, U.S. Air Force, February 2012), 11.

[261] The Air Force includes MPA program decisions in the Air Force Corporate Structure. MAJCOMs submit requests based on operational requirements. The Air Force Corporate Structure prioritizes the MPA requirements against all other programs and makes funding decisions based on the most appropriate use of available resources.

E. Air Force AC-RC Mix, FY2011–FY2012

1. Personnel

About 35 percent of the Air Force military personnel are in the SELRES, which consists of ANG and AFR units and IMAs. SELRES units are staffed by part-time reservists and full-time personnel who include ATRs, AGR, RegAF personnel, and civilian employees. Table 21 shows the composition of the Air Force SELRES for the end of FY2013.[262] The RegAF military strength is programmed for FY2013 at about 330,000, for a total Air Force strength of about 505,000 military personnel.

Table 21. ARC SELRES Strengths, 2013

SELRES	ANG	AFR	Total
Part-Time Reservists	69,317	50,895	120,176
Full-Time Reservists (AGR)	14,577	2,913	17,490
Air Reserve Technicians (Dual-status)	21,814	9,969	31,783
Total in ARC Units	**105,708**	**63,677**	**169,385**
IMAs	0	7,236	7,236
Total SELRES Military Personnel	**105,708**	**70,913**	**176,621**
RegAF Military Personnel (estimate)	200	500	700
Civilian Employees (estimate)	22,000	4,000	26,000
Total ARC	**127,908**	**75,413**	**203,321**

Source: Defense Manpower Data Center, *FY2013 Reserve Components Common Personnel Data System (RCCPDS) Report* (Alexandria, VA: DMDC, 13 December 2013).

The Air Force also has a significant number of trained military personnel in its IRR, Standy Reserve, and Retired military personnel pools who can be recalled in time of need. Table 22 shows the numbers of Air Force personnel in these categories.[263] The retired numbers include regular retirees and reserve retirees and are categorized as those who have been retired less than 6 years and those who have been retired more than 6 years but are less than 60 of age. These manpower pools provide strategic depth that could allow the Air Force to expand its capabilities in non-flying functions such as cyber warfare, intelligence, mission support, missile security, and drone operations. The extent to which these personnel are able and willing to go on active duty is unknown, and the potential demand for skills to enable expansion is not clear. Moreover, the extent to which some of these Air Force personnel could be used in a full mobilization is unknown. The

[262] Defense Manpower Data Center, *FY2013 Reserve Components Common Personnel Data System (RCCPDS) Report* (Alexandria, VA: DMDC, 13 December 2013). The numbers for AC military personnel with the ARC and number of civilian employees for the ARC are estimated.

[263] Ibid.

Air Force says that because these pre-trained personnel will not allow rapid expansion, it is unlikely that they would ever be used.[264]

2. Major Command Wings

The Air Force is organized into wings commanded by a brigadier general or colonel. The mix of wings among the RegAF, ANG, and AFR is a first-order description of the mix of functions. Each RegAF and AFR base has at least one wing. The ANG total number of wings

Table 22. Air Force Pre-Trained Personnel

Air Force IRR	33,964
Standby Reserve	10,137
Retired < 6 years	77,819
Retired > 6 years, <age 60	186,549
Total Pre-trained Individuals	**308,469**

Source: Defense Manpower Data Center, *FY2013 Reserve Components Common Personnel Data System (RCCPDS) Report* (Alexandria, VA: DMDC, 13 December 2013).

includes one wing for each State, the District of Columbia, and Puerto Rico. Guam has an ANG Group, and the U.S. Virgin Islands has an ANG squadron. ARC wings normally have one flying squadron. Table 23 shows the mix of Air Force wings by component for FY2011.[265]

Table 23. Mix of Aircraft Wings in the Air Force in 2011 by Component

Type of Wing	Aircraft Types	RegAF	ANG	AFR	Total
Bomber	B-1, B-2, B-52	5	1	1#	7
Fighter	F-15, F-16, F-22, A-10	16	29	5	50
Reconnaissance	U-2, RQ-4, Predator	1	2		3
Composite	Mix of fighters and airlift	8	6		14
Special Operations	AC-130, MC-130, U-28	3	2	1	6
Air Lift	C-5, C-17, C-130	8	25	15	48
Air Mobility	C-5, C-17	5		3#	8
Aerial Refueling	KC-10, KC-135	3	16	7	26
Rescue	MC-130, HH-60G		2	1	3
Air Mobility Operations		2			2
Contingency Response		2			2
Space		5		1	6

[264] USAF comments on the draft version of IDA Document D-4968, 5 June 2013.

[265] "The Air Force in Facts and Figures," *Air Force* Magazine 95, no. 5 (May 2012): 38–57.

Missile	3			3
Intelligence	1	3		4
Training	12			12
Air Base	19			19
Other	22	2	1	25
Total	**115**	**88**	**35**	**238**

Source: "Major Commands and Air Reserve Components." *Air Force Magazine* 95, no. 5 (May 2012).
Note for Table 23: # Associate Unit.

The mix of wings in Table 23 is not an exact representation of the mix. RegAF wings tend to have more aircraft assigned than the ANG or AFR wings. Also, some wings have more than one kind of aircraft. Most of the composite wings have fighter aircraft and other aircraft types assigned. Airlift and aerial refueling missions are dominated by the ARC. Space and missile operations are almost entirely in the RegAF, although the ARC has expanded into Space and Nuclear Command and Control. Units for domestic operations are almost entirely in the ARC. The training mission is predominately in the RegAF, but the ANG has an F-15 Formal Training Unit (FTU). The "other" category of wings includes maintenance, logistics, human resource management, and similar missions that are also retained largely in the RegAF. Finally, some interaction within the wings incorporates units of different components. For example, the RegAF 55th Wing at Offutt AFB, Nebraska, controls 100 percent of RegAF strategic reconnaissance aircraft, but the 170th Operations Support Squadron of the Nebraska ANG is also in this wing and provides experienced personnel for air crew training and intelligence support.

3. Aircraft

Since the 1960s, the numbers of aircraft in the Air Force have been reduced substantially. The number of RegAF aircraft was reduced substantially while the number of ARC aircraft remained about the same. The ratio of RegAF aircraft to ARC aircraft shifted from 4.3 to 1 in the 1960s to 2.75 to 1 today.[266] As of August 2012, 72 percent of Air Force aircraft were operated by the RegAF, 21 percent by the ANG, and 7 percent by the AFR.[267] The figures in the following subsections show trends since FY1990 in the allocation of aircraft by component for major mission areas.[268] If the decline in proportion of force structure in the RegAF continues, the need to use the ARC more regularly will grow. In effect, the ARC will become more like the RegAF, primarily because the RegAF now has little excess capacity to meet even steady state requirements.[269]

[266] Fagan, "Total Force Integration."

[267] Air Force Total Ownership Cost (AFTOC) Database (Washington, DC: Department of the Air Force, August 2012).

[268] "The Air Force in Facts and Figures," 38–57.

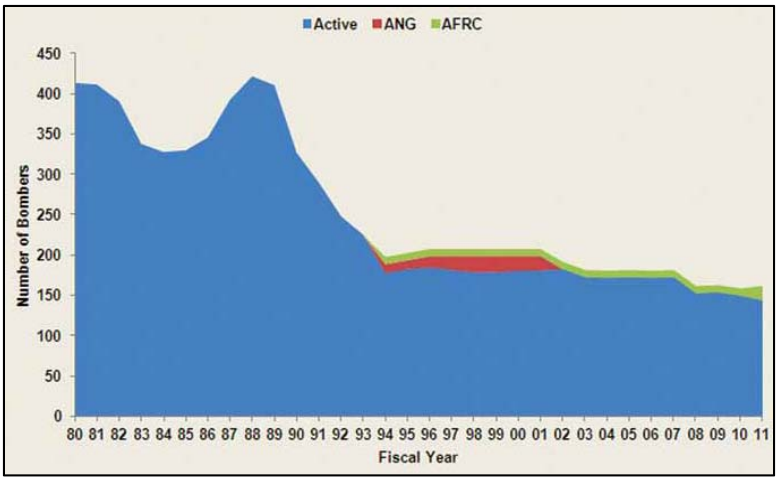
[269] USAF comments on the draft version of IDA Document D-4968, 5 June 2013.

a. Bombers

The RegAF retained all bombers until the 1990s when a few were assigned to the ANG and AFR. The ANG bombers phased out around 2001. Eight B-52s were assigned to the AFR during the 2000s and were increased to 18 for FY2011. See Figure 25.

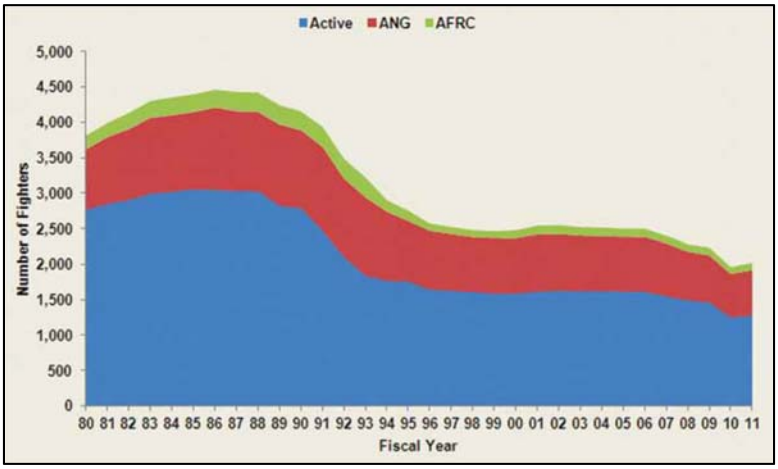
b. Fighters

As the number of fighters decreased after the end of the Cold War in 1989, most of the reduction occurred in the RegAF, some occurred in the AFR, and least occurred in the ANG, which currently has about one-third of the fighter aircraft. See Figure 26.



Source: "USAF Almanac 2012." *Air Force Magazine* 95, no. 5 (May 2012).

Figure 25. Number of Bomber Aircraft by Component, FY1980–FY2011



Source: "USAF Almanac 2012."

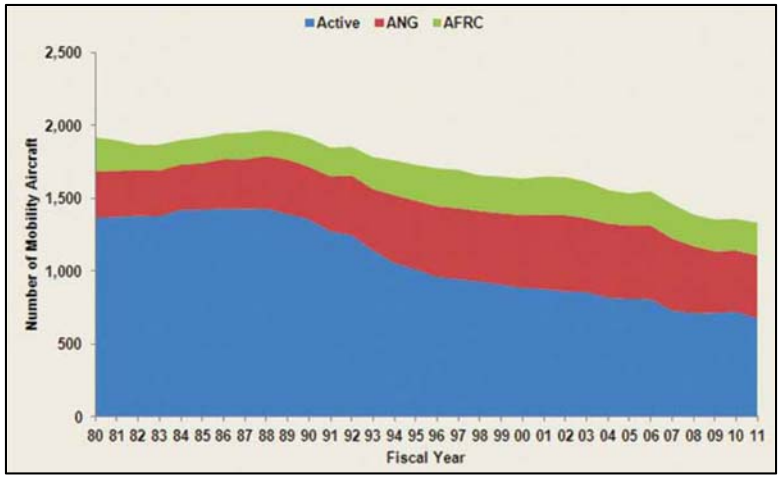
Figure 26. Number of Fighter Aircraft by Component, FY1980–FY2011

c. Mobility Aircraft

As the number of mobility aircraft was reduced with the introduction of larger aircraft, many aircraft were transferred to the ARC. The major reduction occurred in the RegAF. See Figure 27.

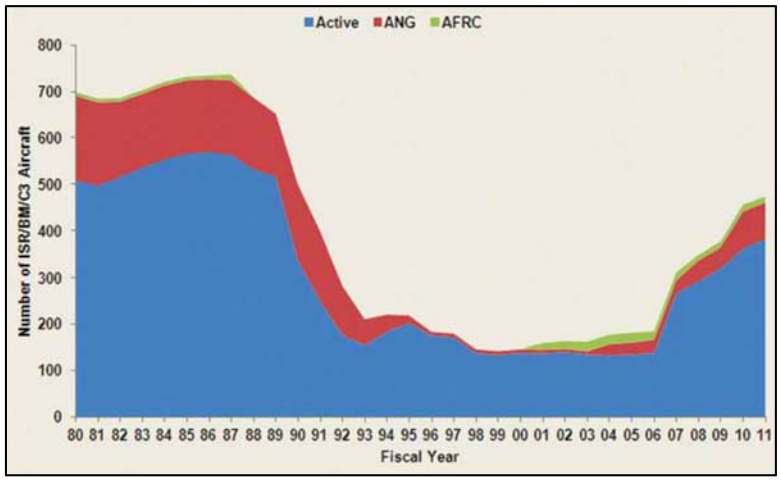
d. Intelligence, Surveillance, and Reconnaissance/Battle Management/Command, Control, and Communications (ISR/BM/C3) Aircraft

The number of ISR/BM/C3 aircraft was reduced greatly after the end of the Cold War. The reduction occurred in the RegAF and ANG. From 1995 to 2005, most of these aircraft were in the RegAF. The recent expansion of these aircraft was mostly in the RegAF, with a few in the ARC. See Figure 28.



Source: "USAF Almanac 2012."

Figure 27. Number of Mobility Aircraft by Component, FY1980–FY2011



Source: "USAF Almanac 2012."

Figure 28. Number of ISR/BM/C3 Aircraft by Component, FY1980–FY2011

Table 24 shows the trend in the assignment of total active inventory aircraft among the components since FY2001. The Air Force does provide first-rate aircraft to the ARC, but the ARC may have earlier models of some aircraft. The numbers of combat aircraft were reduced 12 percent for the RegAF and about 15 percent for the ANG and AFR. These reductions are the result of removing obsolescent aircraft and procuring expensive new aircraft with reduced funding. Table 25 shows the assignment of Air Force aircraft by type and component for FY2011. These two tables do not account for Associate Units.

Table 24. Mix of Aircraft Types by Component, FY2001–FY2013

Aircraft Component	FY2001	FY2005	FY2009	FY2013
RegAF	3,145	3,006	2,902	2,744
ANG	1,361	1,313	1,153	1,171
AFR	445	400	375	379
Total Combat	**4,951**	**4,719**	**4,430**	**4,294**
Training	1,293	1,267	1,114	1,190

Source: "USAF Almanac 2012."

Table 25. Assignment of Air Force Aircraft by Type and Component, FY2011

Aircraft Type	RegAF	ANG	AFR	Total
Bomber	144	0	18	162
Fighter/Attack	1,287	639	100	2,026
Special Operations	105	4	10	119
ISR/BM/C3	381	80	12	473
Tanker	247	189	72	508
Transport	429	242	152	823
Helicopter	151	17	15	183
Training	1,190	*	0	1,190
Total	**3,934**	**1,171**	**379**	**5,484**

Source: "USAF Almanac 2012."

*The ANG has training aircraft, but the number has not been provided.

F. Observations

The Air Force makes effective operational use of the ARC, in wartime and in peacetime, successfully integrating its three components. However, the contention between the components is reflected in ongoing budget battles, which have been exacerbated by the reduction in the total number of aircraft and by the increasing pressure to reduce budgets.

1. AFR

The AFR and the RegAF are completely integrated for operations. Aircraft from an AFR tanker or airlift squadron are available to fly operational support missions most days. AFR cyber and intelligence units can provide reachback support and staff network operations centers during drill weekends and annual tour training days and on man-days. The AFR has begun using the term "daily operational force" to differentiate the constant use of its units and personnel for the peacetime, steady-state operations from the operational reserve role in which ARC units and personnel are placed on active duty for named operations. The AFR strives to demonstrate that it is assured, predictable, and sustainable.

With its high degree of effective integration, the AFR is seeking to retain its share of Air Force funding and capacity and has advocated for a new Total Force Policy that provides a larger role for the AFR as the Iraq and Afghanistan campaigns come to an end.[270] The AFR has published a white paper that proposes more operational missions for the AFR, noting that "Recent changes in law, policy, and management practices have created an RC *operational* force that is accessible, predictable, sustainable, and easily quantified for planning, programming and budgeting purposes, as well as operational risk management purposes."[271]

2. ANG

For many years, the ANG and the RegAF have been contending for a larger share of the Air Force budget. However, the Air Force's official position is that "through careful, Joint-sanctioned modeling, we determined that we could not sustain further AC cuts without jeopardizing the collective ability of the Total Force to support our Nation's strategic interests."[272] The ANG continues to maintain the position that the current AC-RC mix is a result of decades of development based on ANG capability and that, in fact, the RegAF accepted this evolution because of more demands for capability than it could support with its budget and assets. The ANG makes the additional point that there has not been comprehensive study of what the ideal mix should be or an analysis showing that the present mix is unworkable.[273]

The strength of the ANG's support in Congress was reflected in the final FY2013 budget in which Congress rejected the Air Force budget proposal for ANG force structure cuts and continued the prior year's spending.

3. Total Force Enterprise Review Process

The Air Force's Total Force Enterprise Review Process is a well-defined, institutionalized process designed to analyze and refine its AC-RC mix. It includes representatives from the RegAF, AFR, and ANG in an enterprise-level appraisal of Air Force requirements and resources that applies mission and organizational analysis to inform and support senior leader decisions.[274]

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[270] Col. Bob Thompson, "Total Force 21 Paper Offers New Force Mix, DOD Savings," *AF Print News*, 11 May 2011; Lt Gen Charles E Stenner, "Total Force Policy 21: A 21st Century Framework for Military Force Mix Decisions," Air Force Reserve White Paper (Washington, DC: HQ USAF/RE, 16 July 2010),4, http://www.airforcemag.com/SiteCollectionDocuments/Reports/2010/August%202010/Day02/Total_Force_Policy_21_07162010%20.pdf.

[271] Stenner, "Total Force Policy 21."

[272] Richard A. Williams, Jr., Tech.Sgt., "CSAF: Balance Required to Avoid a 'Hollow Force,'" comments by General Norman Schwartz, USAF Chief of Staff, at Air Force Association Breakfast Series, 11 June 2012, Air Force News Service, 12 June 2015, http://www.vandenberg.af.mil/news/story.asp?id=123305700.

[273] Interview with senior ANG staff officer, June 2013.

[274] USAF comments on the draft version of IDA Document D-4968, 5 June 2013.

Analysis of the AC-RC mix is grounded in the defense strategy and primarily considers five major drivers. The first driver is an operational surge demand and a post-surge rotational demand determined by DOD strategic guidance and associated joint planning scenarios. The joint process for determining demand is led by OSD Policy, OSD Cost Assessment and Program Evaluation (CAPE), and the Joint Staff and includes Combatant Commander input. The second and third drivers are the programmed future manpower inventory and the weapon system inventory. The fourth driver is cost, including home-station and deployed manpower and operations and maintenance costs. The fifth driver is a goal to comply with DOD mobilization and deploy-to-dwell policies at the lowest cost. In addition, factors such as velocity to the fight, force sustainment, force viability, and readiness are considered.

The resulting AC-RC mix analysis is refined with a Force Composition Analysis focused on discrete weapon systems and career fields. This refinement provides insights regarding mission feasibility across a range of AC-RC mixes and enables Air Force leadership to choose from several Force Mix Options within individual mission areas. The resulting senior leader decisions are then processed by the Air Force Corporate Structure and further reevaluated and refined with continued Total Force Enterprise analyses.

As part of this process, the MAJCOMs sponsor associations between AC and RC units that are established after careful Air Force corporate structure evaluation. Associations allow units of different components to maximize their training and readiness by sharing equipment, expertise, and experience. Associations that assign RC manpower to AC-hosted partnerships capitalize on the availability of RC manpower, especially those personnel in part-time positions. Associations that assign full-time AC manpower to RC-hosted partnerships capitalize on the availability of RC aircraft and other RC resources. In both cases, the higher experience levels typical among RC members are valuable assets available to be invested in training, seasoning and experiencing younger AC personnel. The Total Force Enterprise Evaluation Group (TFEEG) uses carefully defined criteria to vet MAJCOM proposals for new associations across all major weapon systems and career fields. The TFEEG also monitors the performance of existing associations.

4. Outlook

The Air Force is facing pressure to reduce its budgets while contending with an aging fleet of aircraft and replacement aircraft. These aircraft have very high unit costs that limit the number that can be procured. As the older aircraft are phased out, fewer aircraft will be available to be assigned to operational units. As a result, many ARC wings will have fewer aircraft and will face conversion to mission support roles. This situation will not affect operational integration of the Air Force components, but it complicates the challenge for Air Force leaders who are seeking to find an acceptable AC-RC mix.

The ARC leadership favors TFI. At the TFI Summit in 2010, "Wyoming Air National Guard Chief of Staff, Brig. Gen. Harold Reed, said the summit and active associate configuration is important because it represents the future of the United States Air Force."[275] The ARC wants to continue to be an operational reserve and not just a standby strategic reserve.[276] The ARC has moved into the nuclear arena by providing support for nuclear C2 and security forces for Intercontinental Ballistic Missiles (ICBM) and plays a major role in the expanding Air Force cyber workforce. More mission expansion may be possible.

The Air Force has become dependent on the RC as a matter of necessity since so much capability resides in the ARC. In recent years, the ARC has contributed about 25 percent of each Air and Space Expeditionary Force rotation.[277] Every USAF Air Expeditionary Force rotation cycle includes ARC units, and many Air Combat Command (ACC) missions—stateside and overseas—involve ARC personnel.[278] In essence and as the AFR itself states, the AFR has "evolved from a mobilization force into an operational reserve integrated 24/7 with the active Air Force."[279] The ARC is maintained at a high level of readiness and requires its reserve airmen to be available to deploy anywhere within 72 hours.

The biggest challenges to Air Force integration efforts are cultural. Some AC leaders are concerned about not owning or completely controlling RC forces, and some are reluctant to put AC resources under RC commanders. ARC senior leaders do not want the Reserves to be absorbed into the AC to the extent that their contributions are not visible. Air Force AC-RC mix models consider limiting factors in the use of the RC, including the potential adverse impact on overall recruiting of a larger ARC and employer and public support for long deployments.

A 2012 Air Force white paper outlines a "guiding principle of balance" and cites the following four principles as a basis for determining a mix:

1. Ensure that the Total Air Force can meet surge requirements;
2. Maintain an AC-RC mix that can fulfill rotational requirements at sustainable deployment rates;

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[275] Brian Quester, "Total Force Integration Summit in Wyoming Teaches Lessons Learned," Official Website of the 153rd Air Wing, 12 May 2010, http://www.153aw.ang.af.mil/news/story.asp?id=123205187.

[276] "Annex F: Total Force Integration," in *2010 Combat Air Force Strategic Plan* (Langley AFB, VA: Headquarters Air Combat Command (ACC)/A5S, 2010), 19, http://www.acc.af.mil/shared/media/document/AFD-100915-011.pdf.

[277] John C. Truesdell, "Changes Needed to Transform National Guard and Reserves to Sustainable Operational Force," presentation to the Commission on the National Guard and Reserves (Washington, DC, 12 April 2007).

[278] Harry J. Lundy, "Total Force Integration is Key to Current and Future Success" (Langley AFB, VA: Air Combat Command Public Affairs, 21 May 2010), http://www.acc.af.mil/news/story.asp?id=123205812.

[279] Air Force Reserve Command Website, "Focus," http://www.afrc.af.mil/AboutUs/AFRCHistory/HistoryFocus.aspx.

3. Ensure that the RegAF has sufficient recruiting, training and "operational seasoning" to sustain the AC, ANG, and AFR; and
4. Ensure that the ARC remains relevant and engaged.[280]

These principles provide the basis for a future Air Force with a Total Force approach that effectively and affordably integrates all three of its components.

[280] "USAF Force Structure Changes: Sustaining Readiness and Modernizing the Total Force," U.S. Air Force White Paper, February 2012, 5, http://fleming.house.gov/uploadedfiles/afd-120203-027.pdf.

6. General Observations on Service AC-RC Mixes

When this research was initiated, the expectation was that it would be short and easily done and would reveal some fundamental principles that govern the policies and procedures regarding the mix of AC and RC of the Services. However, that was not the case. The AC-RC mixes turned out to be complex, and each Service has a distinctly different approach. Data were difficult to find, and few principles emerged, but three general observations apply across the Services: uniqueness, management, and culture.

A. Uniqueness

As the Service chapters make clear, each Military Service possesses a unique relationship between its AC and its RC. The relationship is determined partly by the operational domains, roles, and missions of the parent Service and partly by the nature and evolution of U.S. military policy. The traditional military policy prescribed by the Constitution provides for raising and supporting an Army and providing and maintaining a Navy. This policy was based on not having a standing Army and relying heavily on state militias in the event the nation did go to war. Because of the time needed to build warships, it was recognized that the Navy had to be maintained as a ready force at all times, although the construction of the first ships was not authorized until 1794. This policy accounts for the primary differences among the RCs of the sea services—Navy and Marine Corps—and those of the Army and Air Force. One manifestation of that policy that is most relevant today is that the Navy and Marine Corps have only a Federal RC while the Army and its descendent, the Air Force, have both a National Guard component and a Federal RC.

The Navy and Marine Corps have small RCs (about 16 percent) relative to their total military strengths. While USNR aviation units provide all of the Navy's intra-theater fleet logistic support and Marine battalions and air squadrons deployed as units during OIF, in recent years, a primary role of these components has been to provide trained Sailors and Marines to augment the ACs. In the immediate post-WW II era, the USNR provided crews for ships, but the difficulties inherent in relying on part-time personnel to maintain the ships and the declining number of ships ended that role for the USNR. The MCR is organized in the same manner as the active Marine Corps, thus facilitating their employment to fill in the MAGTFs as necessary.

The Army, on the other hand, relies on the National Guard and USAR to provide a distinct second echelon of combat personnel and also to provide support units for active combat

formations. At this time, the USAR and ARNG comprise 50 percent of the Army's military personnel. The emphasis is on trained units that mobilize and are employed as units. Until recently, the ARNG provided more than half of the Army's combat units. The USAR is closely integrated into the Total Army and specializes in providing support units to fill active organizations. The ARNG maintains a separate identity and competes with the active Army for funds during periods of austerity. This relationship waxes and wanes as the threats and budgets go up and down.

After WW II, the Air Force became independent from the Army and established an organization designed primarily to fly and maintain aircraft. In the ensuing years, the ARC developed into a ready force that focused on aviator and flight crew training to fly missions—taking advantage of the willingness of its pilots to train more than the minimums and maintain proficiency at the same level as RegAF pilots and crews. About 35 percent of the Air Force military personnel are in the ARC.

Despite the distinctly different approaches taken by the Services in the use of their RCs, several common features apply to all RCs. Many laws and DOD policies and regulations apply to all RCs, covering such matters as the general organizational framework, compensation, benefits, training, administration, and some operational aspects. These common features shape and sometimes constrain the nature of each RC. However, the nature of each RC is determined more by its relationship with its parent Service than by its relationship with the other RCs.

B. Management

The research suggests that the Army, Navy, and Air Force could improve how they manage their RCs to achieve TFI. The Army manages all of the AC, USAR, and ARNG units in an integrated manner in its force development and force management systems but treats these three components separately for fiscal and personnel management. The Navy and the USNR have separate management systems, and the USNR system is fragmented at the lower levels without strategic integration guidance from the Navy's leadership. The Air Force is integrated well at the working level, but has three separate and often fractious management systems for its RegAF, AFR, and ANG components. The Marine Corps, which addresses its AC and RC as a coherent whole from the top down, has been the most successful in achieving TFI.

One manifestation of fragmented management is fragmented data. Trying to obtain from the Services authoritative data that address the ACs and the RCs in the same formats was challenging. The Marine Corps was able to provide this integrated data. The Army provided integrated data for its Operating Force but was unable to describe what functions the USAR and ARNG elements of the Generating Force were performing. The Navy was able to present Active and Reserve personnel data for each Resource Sponsor but was unable to present data that would allow the separation of personnel in operational billets from those in support billets. The Air Force showed a similar inability to provide data that arrayed its three components in the same format. As a result,

this document includes some personnel tables that are incomplete. This lack of authoritative personnel and manpower data suggests that other areas may also warrant concern.

C. Culture

Culture is an important factor shaping the AC-RC mix of each Service and the way that the ACs and RCs relate to one another. The prevalent cultures are legacies of the past. Despite the past decade of operations in which units and personnel of all components worked well together during overseas contingency operations, to differing degrees in each Service, the leaders within the AC and the RC have a mutual lack of understanding and appreciation of the capabilities possessed and challenges faced by the separate components and of the potential synergies of a more integrated total force that would leverage the strengths of each component.

The nature of working relations between the AC and RC vary over time. When the RCs are obviously needed, as was the case in the recent campaigns in Iraq and Afghanistan, the cooperation among the components tends to increase. In periods of relative peace and when budgets decline, the various components tend to become competitors for scarce resources in the same manner that the Services are competitors for resources. From the perspective of Services and Service components, the competition for dollars and force structure often tend to undermine a cooperative dialogue on larger strategic concerns.

The research suggests that current AC-RC mixes are based more on historical developments than on analysis and are unlikely to be optimal. It also suggests that an objective evaluation of current AC-RC mixes can provide a basis for a modern Total Force Policy as the DOD considers how it should adjust force structure in an uncertain future with reduced budgets.

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Appendix A
Manpower Data Tables

This appendix provides data that the Institute for Defense Analyses (IDA) research team compiled from a variety of sources to provide time series that serve as the basis for the bar charts that are included in the Service chapters. The sources are as follows:

- AC data from FY1989 to FY2001 from Selected Manpower Statistics, Fiscal Year 2003, Washington Headquarters Services, Directorate for Information, circa 2004.
- FY2005 data: Department of Defense, *Defense Manpower Requirements Report: Fiscal Year 2005* (Washington, DC: Office of the Under Secretary of Defense for Personnel and Readiness ODUSD(PI)(RQ), March 2004), http://prhome.defense.gov/Portals/52/Documents/RFM/TFPRQ/Docs/FY2005.pdf.
- FY2009 data: Department of Defense, *Defense Manpower Requirements Report: Fiscal Year 2011* (Washington, DC: Office of the Under Secretary of Defense for Personnel and Readiness Requirements and Program & Budget Coordination Office, December 2010), http://prhome.defense.gov/Portals/52/Documents/RFM/TFPRQ/Docs/FY11%20Defense%20Manpower%20Requirements%20Report%20(DMRR)%20--%20Dec%202010,%20corrected%20Feb%202011%20.pdf.
- SELRES data for FY1989, from Office of the Assistant Secretary of Defense for Reserve Affairs, Official Guard and Reserve Manpower and Strength Statistics, March 1991.
- SELRES data for FY1993 to FY2001, from Selected Manpower Statistics, Fiscal Year 2003, Washington Headquarters Services, Directorate for Information, circa 2004.
- AC and Selected Reserve data for FY2013 and FY2017 from Under Secretary of Defense (Comptroller), "DoD Budget Request: Defense Budget Materials - FY2012," http://comptroller.defense.gov/budgetmaterials/budget2012.aspx.

U.S. Army Data

Army data are presented in total and by function.

Table A-1. U.S. Army End Fiscal Year (FY) Strength or Full-Time Equivalents (FTE)

	FY1989	FY1993	FY1997	FY2001	FY2005	FY2009	FY2013	FY2017
AC	769,741	572,473	491,707	480,450	488,579	549,915	547,000	490,000
ARNG	458,960	409,919	370,044	351,829	333,177	358,391	358,200	358,200
USAR	319,244	275,900	212,850	205,528	189,005	205,297	205,000	205,000
Military	1,547,945	1,258,292	1,074,601	1,037,807	1,010,701	1,113,603	1,110,200	1,053,200
Civilian	403,000	294,000	247,000	220,000	231,000	263,000	256,000	256,000
Total	**1,950,945**	**1,552,292**	**1,321,601**	**1,257,807**	**1,241,761**	**1,376,603**	**1,36,6200**	**1,309,200**

Note: AC: Active Component; ARNG: Army National Guard; USAR: U.S. Army Reserve.

Table A-2. U.S. Army Military Personnel by Function

	Combat						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	156,714	125,075	118,190	134,431	151,059	148,715	131,506
ARNG	160,525	174,297	159,212	135,770	106,158	106,408	106,322
USAR	15,361	882	841	810	685	694	694
Total	**332,600**	**300,254**	**278,243**	**271,011**	**257,092**	**255,817**	**238,522**
	Aviation						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	30,121	24,087	23,903	24,889	26,799	28,145	30,751
ARNG	18,687	21,493	20,323	18,896	21,127	23,978	23,867
USAR	5,842	1,880	2,187	2,419	2,448	2,188	2,361
Total	**54,650**	**47,370**	**46,413**	**46,204**	**50,374**	**54,311**	**56,979**
	Combat Support (CS)						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	81,354	69,683	69,386	64,097	63,169	59,337	51,972
ARNG	83,071	80,602	79,093	80,558	77,438	78,383	77,823
USAR	48,413	42,166	39,931	40,851	46,744	49,799	50,642
Total	**212,838**	**192,451**	**188,410**	**185,506**	**187,351**	**187,519**	**180,437**
	Combat Support Service (CSS)						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	98,127	79,950	83,230	92,876	109,272	91,234	81,807
ARNG	92,836	85,096	85,678	89,176	101,631	93,003	90,784
USAR	95,938	89,850	90,189	84,233	72,960	75,231	75,040
Total	**286,901**	**254,896**	**259,087**	**266,285**	**283,863**	**259,468**	**247,631**

Table A-2. U.S. Army Military Personnel by Function (Continued)

	Special Forces						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	8,751	8,216	8,106	9,289	12,823	16,827	17,324
ARNG	2,840	3,363	3,343	3,373	4,182	3,881	4,939
USAR	10,974	7,559	7,166	8,826	10,087	12,680	12,811
Total	**22,565**	**19,138**	**18,615**	**21,488**	**27,092**	**33,388**	**35,074**
	Operational Headquarters						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	2,225	2,083	3,198	3,596	7,563	6,727	6,211
ARNG	864	903	1073	1,062	771	440	1,806
USAR	382	376	586	901	149	727	2,250
Total	**3,471**	**3,362**	**4,857**	**5,559**	**8,483**	**7,894**	**10,267**
	Operating Force Table of Distribution and Allowances (TDA)						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC						10,029	9,863
ARNG						1,544	1,580
USAR						2,338	2,338
Total						**13,911**	**13,781**
	Total Operating Force						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	377,292	309,094	306,013	329,178	370,685	361,014	329,434
ARNG	358,823	365,664	348,722	328,835	311,307	307,637	307,121
USAR	176,910	142,713	140,900	138,040	133,073	143,657	146,136
Total	**913,025**	**817,471**	**795,635**	**796,053**	**815,063**	**812,308**	**782,691**
	Generating Force						
	FY1993	**FY1997**	**FY2001**	**FY2005**	**FY2009**	**FY2013**	**FY2017**
AC	148,939	127,011	106,371	98,534	99,706	93,054	92,576
ARNG	31,840	36,263	33,954	36,329	35,748	37,809	37,809
USAR	65,268	63,455	79,556	61,764	47,365	46,416	46,416
Total	**246,047**	**226,729**	**219,881**	**196,627**	**182,819**	**177,279**	**176,801**

Note: AC: Active Component; ARNG: Army National Guard; USAR: U.S. Army Reserve.

U.S. Navy Data

Table A-3. U.S. Navy Personnel End FY Strength or FTE

	FY1989	FY1993	FY1997	FY2001	FY2005	FY2009	FY2013	FY2017
AC	592,652	509,950	395,564	377,810	362,941	329,304	322,700	323,735
SELRES	134,496	110,110	84,251	78,996	69,082	53,982	50,942	47,259
TAR/FTS	26,535	22,285	16,697	14,649	13,981	12,526	11,558	11,771
Total RC	161,033	132,395	100,948	93,645	83,063	66,508	62,500	59,030
Total Military	753,685	642,345	496,512	471,455	446,004	395,812	385,200	382,765
Civilian	Not available		220,998	193,447	190,303	197,213	214,723	214,149
Total			**717,510**	**664,902**	**636,307**	**593,025**	**599,923**	**596,914**

Note: AC: Active Component; SELRES: Selected Reserve; TAR/FTS: Training and Administration of the Reserve/Full-Time Support: RC: Reserve Component; FTE: Full-Time Equivalent.

U.S. Marine Corps Data

Table A-4. U.S. Marine Corps Personnel End FY Strength or FTE

	FY1989	FY1993	FY1997	FY2001	FY2005	FY2009	FY2013	FY2017
AC	197,360	178,339	173,509	172,934	180,020	203,000	193,600	182,100
USMCR	43,576	41,736	41,987	39,820	38,500	39,600	39,600	39,600
Total	**240,936**	**220,075**	**215,496**	**212,754**	**218,520**	**242,600**	**233,200**	**221,700**

Note: AC: Active Component; USMCR: U.S. Marine Corps Reserve.

U.S. Air Force Data

Table A-5. U.S. Air Force Personnel End FY Strength or FTE

	FY1989	FY1993	FY1997	FY2001	FY2005	FY2009	FY2013	FY2017
AC	576,446	444,351	377,365	353,571	353,696	333,408	328,900	328,600
ANG	116,061	117,162	110,022	108,485	109,200	106,000	101,600	101,200
AFR	83,214	80,562	71,966	73,757	68,000	71,000	70,500	69,500
Civilian	261,000	202,000	180,000	160,000	163,000	164,000	186,000	186,000
Total	**103,6721**	**844,075**	**739,353**	**695,813**	**693,896**	**674,408**	**687,000**	**685,300**

Note: AC: Active Component; ANG: Air National Guard; AFR: Air Force Reserve.

Appendix B
Illustrations

Figures

Tables

Appendix C
References

This appendix is organized into five parts. The "General" part lists the references that apply to all of the Military Services. The next four parts list references that apply to a particular Service.

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Appendix E
Abbreviations

AAV	Amphibious Assault Vehicle
ABCT	Armored Brigade Combat Team
AC	Active Component
ACC	Air Combat Command
ACR	Armored Cavalry Regiment
ADC	Air Defense Command
ADCON	administrative control
ADSW	active duty for special work
ADT	active duty for training
AEF	Air and Space Expeditionary Force
AFAA	Air Force Audit Agency
AFB	Air Force Base
AFR	Air Force Reserve
AFRC	Air Force Reserve Command
AFSPC	Air Force Space Command
AGR	Active Guard Reserve
AIRRS	Aircraft Inventory Readiness Reporting System
ANG	Air National Guard
ANGLICO	Air Naval Gunfire Liaison Company
AoE	Army of Excellence
ARC	Air Reserve Component
ARFORGEN	Army Force Generation
ARNG	Army National Guard
ART	Air Reserve Technicians
ASA (FM&C)	Assistant Secretary of the Army for Financial Management and Comptroller
ASW	anti-submarine warfare
AT	annual training
AT/FP	Anti Terrorism/Force Protection
ATEC	Army Test and Evaluation Command
AUSA	Association of the U.S. Army
AVF	All-Volunteer Force
BAMS UAS	Broad Area Maritime Surveillance Unmanned Aircraft System
BCT	Brigade Combat Team
BM	battle management
BSO	Budget Submitting Office
BUR	Bottom-Up Review
C2	command and control

C3	command, control, and communications
CA	Civil Affairs
CAPE	Cost Assessment and Program Evaluation
CCMD	combatant command
CD&I	Combat Development and Integration
CENTCOM	U.S. Central Command
CEP	CNO Executive Panel
CIDC	Criminal Investigation Division Command
CIV	civilian
CLC	Combat Logistics Company
CNARF	Commander, Naval Air Reserve Force
CNATRA	Chief of Naval Air Training
CNAVRES	Chief of the Naval Reserve
CNO	Chief of Naval Operations
CNR	Chief of the Navy Reserve
CNRFC	Commander Navy Reserve Forces Command
COCOM	combatant command
CONOPS	Concept of Operations
CONPLAN	contingency plan
CONUS	Continental United States
CORM	Commission on Roles and Missions of the Armed Forces
CRF	Coastal Riverine Force
CS	combat support
CSA	Chief of Staff of the Army
CSS	combat service support
DHS	Department of Homeland Security
DMDC	Defense Manpower Data Center
DOD	Department of Defense
DOT	U.S. Department of Transportation
DPG	Defense Planning Guidance
DRSS	Defense Readiness Reporting System
DS	Direct Support
DTG	date-time group
EOD	explosive ordnance disposal
ESB	Enhanced Separate Brigade
EW	Electronic Warfare
FEMA	Federal Emergency Management Agency
FM	Force Management
FMOC	Force Management Oversight Council
FORSCOM	U.S. Army Forces Command
FRAP	Force Readiness Assessment and Assistance Program
FRAM	Fleet Rehabilitation and Modernization
FRP	Fleet Response Plan
FRS	Fleet Replacement Squadron
FSMAO	Field Supply and Maintenance Analysis Office
FSRG	Force Structure Review Group

FSSG	Force Service Support Group
FSSR	Force Service Support Regiment
FTE	Full-Time Equivalent
FTS	Full-Time Support
FTU	Formal Training Unit
FY	Fiscal Year
GAO	Government Accountability Office
GS	General Support
GWOT	Global War on Terrorism
HDQA	Headquarters, Department of the Army
HIMARS	High Mobility Artillery Rocket System
HMH	Marine Heavy Helicopter Squadron
HMLA	Marine Light Attack Helicopter Squadron
HQDA	Headquarters, Department of the Army
HUMINT	human intelligence
IA	Individual Augmentee
IBCT	Infantry Brigade Combat Team
ICBM	Intercontinental Ballistic Missile
IDA	Institute for Defense Analyses
I-I	Inspectors and Instructors
IMA	Individual Mobilization Augmentee
IMCOM	Installation Management Command
INSCOM	Intelligence and Security Command
IRR	Individual Ready Reserve
ISR	intelligence, surveillance, and reconnaissance
JAG	Judge Advocate General
JCS	Joint Chiefs of Staff
LAR	Light Armored Reconnaissance
LCS	Littoral Combat Ship
M&RA	Manpower and Reserve Affairs
MAC	Military Airlift Command
MAD	Mutually Assured Destruction
MAGTF	Marine Air-Ground Task Force
MAJCOM	major command
MARAD	Maritime Administration
MARFORRES	Marine Forces Reserve
MAW	Marine Aircraft Wing
MCM	mine countermeasure
MCR	Marine Corps Reserve
MDW	Military District of Washington
MEB	Marine Expeditionary Brigade
MEF	Marine Expeditionary Force
MEU	Marine Expeditionary Unit
MFC	Marine Forces Command
MFR	Marine Forces Reserve
MISO	Military Information Support Operations

MLG	Marine Logistics Group
MOA	Memorandum of Agreement
MPA	Military Personnel Account
MSC	Major Subordinate Command Military Sealift Command
MTW	major theater war
N1	Office of the Deputy Chief of Naval Operations (Manpower, Personnel, Training, and Education)
N12	Total Force Requirements Division
N3/N5	Operations, Plans, and Strategy Section
N51	Director, Strategy and Policy Division
N81	CNO's Assessment Division
NATO	North Atlantic Treaty Organization
NAVELSG	Navy Expeditionary Logistics Support Group
NAVMAC	Naval Manpower Analysis Center
NCF	Naval Construction Force
NCHB	Navy Cargo Handling Battalion
NCO	non-commissioned officer
NDRF	National Defense Reserve Fleet
NEANG	Nebraska ANG
NECC	Navy Expeditionary Combat Command
NEIC	Navy Expeditionary Intelligence Command
NFO	Naval Flight Officer
NGA	National Guard Association
NMCB	Navy Mobile Construction Battalion
NNRPB	National Naval Reserve Policy Board
NOAA	National Oceanic and Atmospheric Administration
NOSC	Navy Operational Support Center
NRF	Naval Reserve Force
O&M	operation and maintenance
OAD	Operations Analysis Division
OCNR	Office of the Chief of Navy Reserve
OCO	Overseas Contingency Operations
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OMCR	Organized Marine Corps Reserve
OMNR	Operation and Maintenance, Navy Reserve
ONE	Operation Noble Eagle
OPLAN	Operation Plan
OPNAV	Office of the Chief of Naval Operations
OPTEMPO	operations tempo
OSD	Office of the Secretary of Defense
OSO	Operational Support Officer
PA&E	Program Assessment and Evaluation
P.L.	Public Law
POE	projected operational environment

POM	Program Objective Memorandum
PPO	Plans, Policies, and Operations
QDR	Quadrennial Defense Review
ARMC	Quadrennial Review of Military Compensation
RAU	Reserve Associate Unit
RC	Reserve Component
RCCPDS	Reserve Components Common Personnel Data System
RCR	Reserve Capability Review
RegAF	Regular Air Force
RFPB	Reserve Forces Policy Board
ROA	Reserve Officers Association
ROC	required operational capability
ROMO	range of military operations
ROS	Reduced Operational Status
RPN	Reserve Personnel Navy
RRF	Ready Reserve Force
RSTA	Reconnaissance, Surveillance, and Target Acquisition
SCA	Strategic Air Command
SAM	Sea/Air Mariner
SAU	Squadron Augment Unit
SBCT	Stryker Brigade Combat Team
SEAL	sea-air-land
SELRES	Selected Reserve
SBCT	Stryker Brigade Combat Team
SIP	Student Incentive Payment
SMCR	Selected Marine Corps Reserve
SMDC	Space and Missile Defense Command
SME	subject matter expert
SOC	Special Operations Capable
SOF	Special Operations Force
SRF	Select Reserve Force
SSOP	Strategic Sealift Officer Program
STRATCOM	U.S. Strategic Command
SURGEMAIN	Surge Maintenance
SWA	Southwest Asia
TAA	Total Army Analysis
TAA003	Total Army Analysis 2003
TAA009	Total Army Analysis 2009
TAC	Tactical Air Command
TAG	The State Adjutants General
TAR	Training and Administration of the Reserve
TDA	Table of Distribution and Allowances
TFEEG	Total Force Enterprise Evaluation Group
TFI	Total Force Integration
TFSD	Total Force Structure Division
TFSP	Total Force Structure Process

TRADOC	U.S. Army Training and Doctrine Command
TRANSCOM	Transportation Command
USA	U.S. Army
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USAFR	U.S. Air Force Reserve
USAR	U.S. Army Reserve
USARAF	United States Army Africa
USARCENT	United States Army Central
USAREUR	United States Army Europe
USARNORTH	United States Army North
USARPAC	United States Army Pacific
USARSOUTH	United States Army South
USASOC	U.S. Army Special Operations Command
USMA	United States Military Academy
USMC	U.S. Marine Corps
USMCR	U.S. Marine Corps Reserve
USN	United States Navy
USNR	U.S. Navy Reserve
USSOCOM	U.S. Special Operations Command
VADM	Vice Admiral
VBSS	visit, board, search, and seizure
VCNO	Vice Chief of Naval Operations
VMA	Marine Attack
VMAQ	Marine Tactical Electronic Warfare
VMFA	Marine Fighter Attack
VMGR	Marine Air to Air Refueler and Transport
VMM	Marine Medium Tilt-Rotor
VMU	Marine Unmanned Aerial Vehicle
WW II	World War II

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14. ABSTRACT

This report describes the current and programmed mix of Active Component (AC) and Reserve Component (RC) units and personnel in the Military Services and traces its evolution from the end of the Cold War to the present time. Information on the current AC-RC mix provides a baseline from which to consider alternative AC-RC mixes when planning future force structures.

The historical review starts at the end of World War II and describes in general terms the AC-RC mixes at that time and the changes that occurred through the Cold War. The modern history of the AC-RC mix starts with the introduction of the Total Force Policy in the 1970s and the role of the RC during the Cold War. Finally, the major focus of the paper is on the evolution of the AC-RC mix in each Service from the end of the Cold War in 1989 to the present day. The report illustrates the different natures of the AC-RC relationships that exist because of the unique nature of each Services domain, role, and culture.

15. SUBJECT TERMS

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