

Strategy Research Project

The Marine Corps' Future Hybrid Force: Integrating an Operational Reserve

by

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Abstract

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This research explores a Hybrid Operational Reserve – reserve units woven into active units over time – as a means to increase readiness and operational capacity at a lower cost. It is predicated on an evolutionary organizational construct based on the previous 12 years of combat - avoiding future reductions in structure, readiness, and modernization. Potential annual Marine Corps manpower savings of \$262 million are generated through the more efficient use of full-time support personnel and reducing post-deployment (dwell) active duty costs, while avoiding tiered readiness. The Hybrid Operational Reserve effectively implements 10 U.S.C. §12304b authority by translating force generation and unit life cycle models to involuntarily activate Reserve companies and squadron Individual Mobilization Augmentees (IMA) during peacetime. Predictable operational utilization maintains the tactical “edge” of Reserve units and recapitalizes on prior Active Component (AC) experience. Reversibility of OEF/OIF structure is achieved through the retention of AC battalion-level headquarters and IMA augmentation at the regiment/group level.

The Marine Corps' Future Hybrid Force: Integrating an Operational Reserve

I've been very honest about my concerns over the national debt...it is the greatest threat to our national security. My bet is that the defense budget will at best be flat over the next few years...That will drive – or should drive – some very tough decisions about what kind of military we will build.

—CJCS Admiral Mullen¹

As the United States draws down from over 12 years of major operations in Afghanistan and the Middle East, the U.S. Government will need to make hard choices between domestic programs and national security in an era of fiscal austerity. The Armed Forces providing that security will face difficult decisions between keeping their capacity (force structure), maintaining combat effectiveness (readiness), and preparing for the future (modernization). Regardless of how the Armed Forces balance these imperatives, they must explore ways to prudently use their funding. Moreover, they must examine organizational changes which more efficiently produce operational capacity.

This research explores a Hybrid Operational Reserve – Reserve units woven into active units over time - as a means to increase readiness and operational capacity, while lowering personnel costs. It is predicated on an evolutionary organizational construct based on the previous 12 years of combat. Two examples used to illustrate the Hybrid Operational Reserve concept include Marine Corps active and Reserve rifle companies organized under the operational control of an Active Component (AC) infantry battalion and the integration of AC and Reserve Component (RC) personnel in a Marine Corps AC aviation squadron. The broad differences in the organization and employment of these two unit types (ground and aviation) demonstrate the applicability of the Hybrid Operational Reserve to a diverse range of units with unique manpower requirements. The intent of this examination includes the following:

1. Reduce personnel costs through more efficient use of active duty full-time support (FTS) personnel in aviation units. FTS personnel are AC and RC members designated in full-time support of the RC and include both integrated unit Tables of Organization (T/O) and site support organizations.
2. Lower the personnel costs of maintaining peace-time unit readiness.
3. Better retain unit cohesion during post-deployment dwell. Post-deployment dwell is the period of lull during a unit's life cycle after returning from deployment and before initiation of intense training (work-up) in preparation for the next scheduled deployment.
4. Maintain the tactical "edge" of Reserve units and personnel through a short period of operational use, followed by a longer, less intense period of Strategic Reserve. DOD Directive (DODD) 1200.17 describes operational use as participation "in a full range of missions according to...force generation plans...in an established cyclic or periodic manner."² Reserves have been integrated "operationally" over the past decade of war in Iraq and Afghanistan. Although not formally defined in Department of Defense (DOD) doctrine, the Strategic Reserve is generally accepted lexicon for a "force designed to facilitate rapid expansion of the armed forces for a major war."³ Strategic Reserve intimates a traditional Reserve role tied to very large scale, long duration wars.

Integrating the Hybrid Operational Reserve unit construct across the Marine Corps would generate reoccurring personnel savings of at least \$262 million per year. It achieves these savings, primarily through the more efficient use of FTS and prior AC

Reserve service members in aviation units and the retention of post-deployment readiness at a reduced cost. This savings total includes the potential reinvestment of \$87 million in AC aviation units and individual mobilization augmentees (IMA).

Approximately 44 percent of Marine Forces Reserve (MARFORRES) structure was excluded from the above cost savings estimate as inappropriate for an Operational Reserve role (i.e., does not meet a predictable peacetime combatant commander force requirement, headquarters elements, or assigned in support of the Commandant's Title 10, U.S.C. organize, train, and equip functions.)

Analysis begins with an assessment of the operational environment followed by a brief overview of the Marine Corps and its RC. The standard AC unit life cycle is described, and then modified for Reserve units by substituting an extended period of post-deployment dwell. Adapting the unit life cycle to the RC is consistent with an underlying principle which establishes two distinct Reserve categories - an Operational Reserve and a Strategic Reserve. The formalization of these two categories in doctrine and organization will enable the pragmatic realization of the Operational Reserve to support predictable peace and unexpected wartime combatant commander force requirements, consistent with Reserve force generation models of the previous decade. Primarily, organization and costs are explored, although all elements of *Doctrine, Organization, Training, Material, Leadership and education, Personnel, Facilities and Cost* (DOTMLPF-C) are considered. A full DOTMLPF-C analysis for each service is recommended prior to any Hybrid Operational Reserve implementation.

Environment

The Congressional Budget Office (CBO) predicts that public debt over the next 25 years will continue to rise as mandatory outlays for health care and social security entitlements increase with an aging population (Figure 1).⁴ Former Chairman of the



Figure 1. Public Debt as a Percentage of Gross Domestic Product
Joint Chiefs of Staff Admiral Mullen predicted rising national debt will markedly impact government choices, negatively affecting the budget available for the military. Modernization, readiness, and force structure will compete with domestic programs, entitlements, and interest. Concurrently, competitors such as Russia and China are increasing their military spending.

The CBO further projects interest on the national debt to increase from 1.4 to 3.3 percent of Gross Domestic Product in the next 10 years due to rising interest rates (Figure 2).⁵ Budget projections beyond 10 years are more problematic as entitlement costs of an aging population continue to rise, further increasing the public debt. The resultant interest payments will overtake the defense budget without significant changes to these entitlement programs.

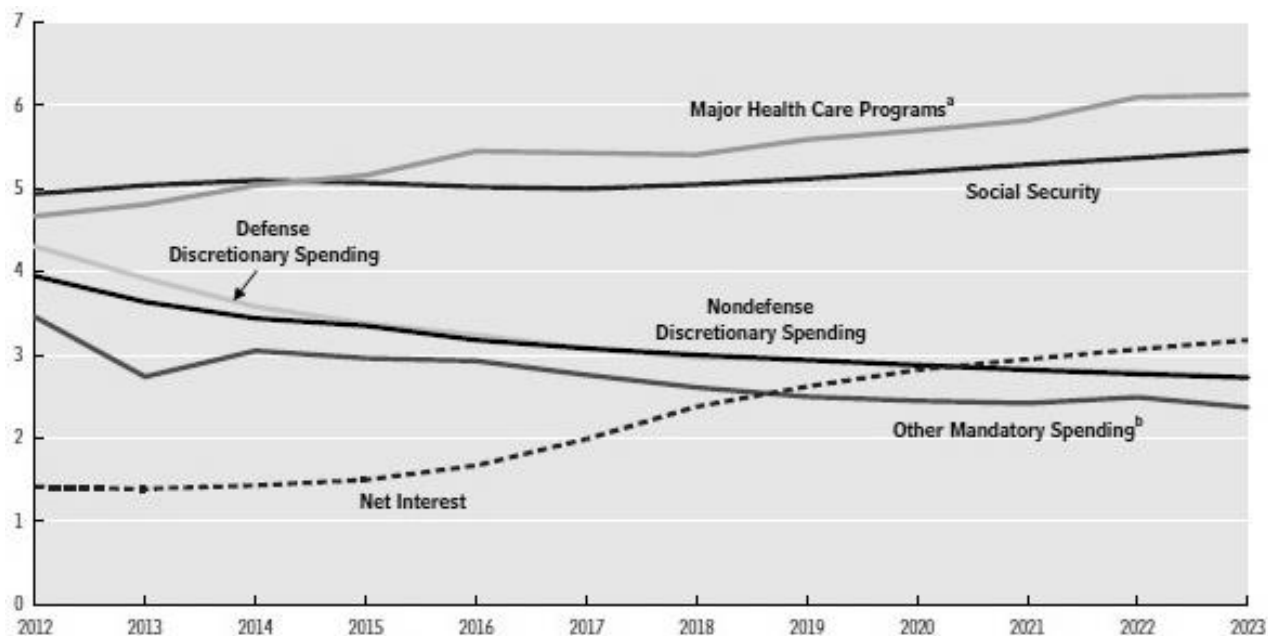


Figure 2. Projected Spending in Major Budget Categories

The rising debt and increases in entitlement spending are already impacting government revenues available for defense spending. The National Defense budget estimates for fiscal year (FY) 2014 depict a 20 percent reduction in the Department of Defense (DOD) budget from FY 2012 – 2018. This excludes Overseas Contingency Operations (OCO) funding averaging \$35.8 billion from FY 2014 – 2018 (Table 1).⁶

Table 1. National Defense Budget Forecast in FY14 Constant Dollars (\$Billions)

<u>FY 2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>
706.8	665.4	648.9	566.5	567.6	565.8	562.7

This budget forecast exceeds the 2011 Budget Control Act enforcement provisions by an average of \$60 billion annually⁷ and the 2013 Bipartisan Budget Act agreement of \$496 billion for FY14 and 15.⁸ Secretary Hagel and General Dempsey indicated in recent comments that additional Army and Marine Corps force structure cuts would be necessary beginning in FY16 if these budget differences are not reconciled.⁹

Rising military personnel costs further jeopardize the National Military Defense Strategy and are a significant long-term concern of senior military leaders. In congressional testimony on 7 November 2013, all four service chiefs warned that spending on increasing military personnel health care and retirement costs may crowd out other defense spending within the next 10 years. Army Chief of Staff General Odierno stated, “The cost of [an Army] soldier has doubled since 2001; it’s going to almost double again by 2025.”¹⁰ Commandant of the Marine Corps General Amos predicted that “if we stay on the course we’re on, somewhere around 2025 we’ll have 98 cents of every dollar going for benefits.”¹¹

The recent one percentage-point reduction in military pension Cost of Living Allowance (COLA) pay increases for personnel entering the service beginning 1 January 2014 is indicative of the challenge faced by congress to reduce military personnel costs through meaningful compensation reform.¹² In this instance, lobbying by veterans organizations resulted in the grandfathering of members entering the service before 2014 in lieu of the original retroactive clause encompassing all service members and retirees under the age of 62. The political challenge inherent in reducing the benefits and allowances of serving combat veterans and retirees may be insurmountable in the short-term. This trend reinforces the need to generate organizational efficiencies elsewhere or implement cuts in modernization, readiness, and force structure.

Meanwhile, instability and security threats in the Joint Operating Environment are projected to remain at their current levels or increase over the next decade. Traditional adversaries, including Iran and North Korea, continue to challenge regional stability and

security. Increased tension between China and Japan over Senkaku Islands' sovereignty and the growing conflicts between the Russian Federation and prior Soviet satellites of Ukraine and Georgia threaten to draw the U.S. into defense of its allies and treaty obligations. The likelihood of violence could also increase with the "physical pressures – population, resource, energy, climat[e]...combine[d] with rapid social, cultural, technological, and geopolitical change" depicted in the 2008 National Defense Strategy (NDS).¹³

Despite these threats, unofficial drafts of the 2014 National Security Strategy suggest lowering the bar to "a military capable of fighting one major land war while simultaneously providing sustained defense of critical global strategic interests... a military capable of full spectrum operations from disaster relief and humanitarian missions, to low-intensity conflict and general war."¹⁴ This change in strategic posture is occurring amid an increasing demand signal for forces by combatant commanders. However, continued end strength reductions in land forces combined with fewer training dollars places the nation at risk in winning even a single war according to recent congressional testimony by the service chiefs.¹⁵

The difficult to reconcile conclusion is the Department of Defense requirement to further reduce costs while sustaining a high-level of military operations necessary to secure American interests. This conclusion is based on the foregoing discussion and leads to three logical and realistic assumptions necessary for force planning.

1. U.S. government discretionary resources will continue to decrease as mandatory entitlement spending and interest on the debt increase.

2. The DOD budget in real dollars will continue to decrease, requiring efficiencies or reductions in force structure, readiness, or modernization.
3. The national security environment will require an active and engaged operational force.

Marine Corps Overview

The Marine Corps is a Total Force organization of AC, RC, and civilian personnel. Together, they provide the nation with three active divisions, wings, and logistics groups as prescribed in Title 10 and a Reserve division, wing, and logistic group.¹⁶ Marine Corps guidance on Total Force integration states that units are “manned, trained, and equipped to deploy across the range of military operations...Reserve Component units are similar to their AC counterparts in structure, capability, and equipment, and they maintain the same fundamental individual and unit training standards.”¹⁷

According to MCO 1001R.1K, the Marine Corps Reserve Administration Management Manual (MCRAMM), the mission of the Marine Corps Reserve is to provide “the means for rapid expansion of our Corps during national emergency.” The MCRAMM further describes the Marine Corps Reserve as providing the “added capability, flexibility, and depth that is the foundation for our sustainment at any level of recall or mobilization.”¹⁸ The administration, instruction, and training of Reserve units is conducted under the proponentcy of the Commander, Marine Forces Reserve and the advocacy of the Marine Corps Deputy Commandants (DC) to ensure Total Force integration (Figure 3).¹⁹

DC, Combat Development and Integration (CD&I)
DC, Plans, Policies, and Operations (PP&O)
DC, Aviation (AVN)

DC, Installations and Logistics (I&L)
 DC, Manpower and Reserve Affairs (M&RA)
 DC, Programs and Resources (P&R)
 Counsel for the Commandant (SJA)

Figure 3. Marine Corps Advocates for the Total Force.

Personnel

Military personnel of the Marine Corps Total Force are divided into three distinct categories consisting of the AC, RC, and retirees (Figure 4). The proposed concept of

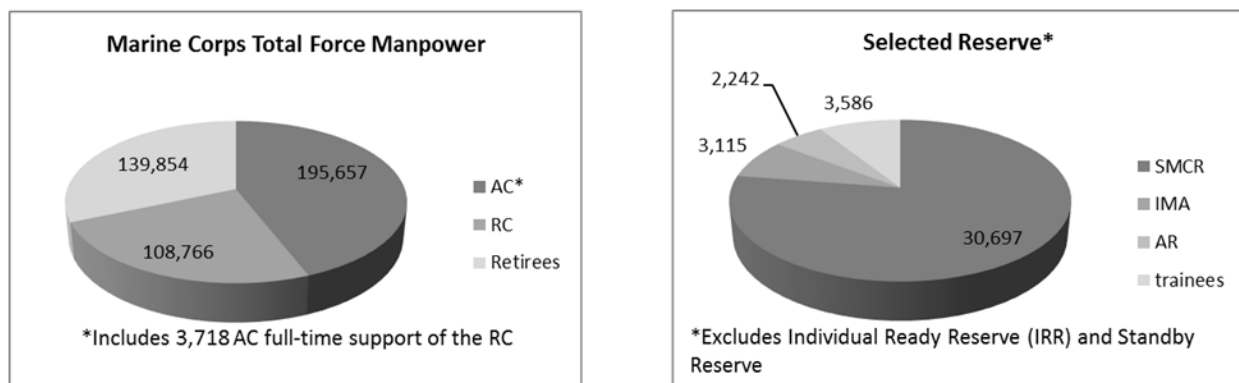


Figure 4. Composition of the Uniformed Total Force and Selected Reserve, 30 September 2013

Hybrid Operational Reserve units focuses on the nexus of the AC and the Selected Reserve (SelRes) - that portion of the RC organized to train as or with an active or Reserve unit on a regular basis or designated in full-time support (FTS) of the RC. SelRes includes Selected Marine Corps Reserve (SMCR) units, Individual Mobilization Augmentees (IMA), and the Active Reserve (AR) program (for illustration purposes, Marines undergoing initial active duty for training are also included in Figure 4.)

The FY 2014 estimated baseline costs for AC and RC personnel is \$13.6 billion. Ninety-five percent (\$12.9 billion) of the Marine Corps personnel appropriations are programmed for AC personnel, to include 3,699 AC FTS personnel. About one-third

(\$227 million) of the remaining personnel appropriations are programmed for RC FTS.²⁰

The proposed Hybrid Operational Reserve unit construct would reduce AC personnel requirements through a more efficient use of FTS personnel in aviation units and by decreasing AC post-deployment personnel costs.

According to the February 2014 Authorized Strength Report (ASR), the Marine Corps will continue drawing down its AC from a peak of over 202,000 to a strength of 174,000 (excluding a Marine Corps Security Force increases) and reduce Selected Reserve strength from 39,600 to 38,500 by the end of FY 2017. The RC unit mix will increase as a relative percentage of Total Force capacity (Figure 5). Higher costing

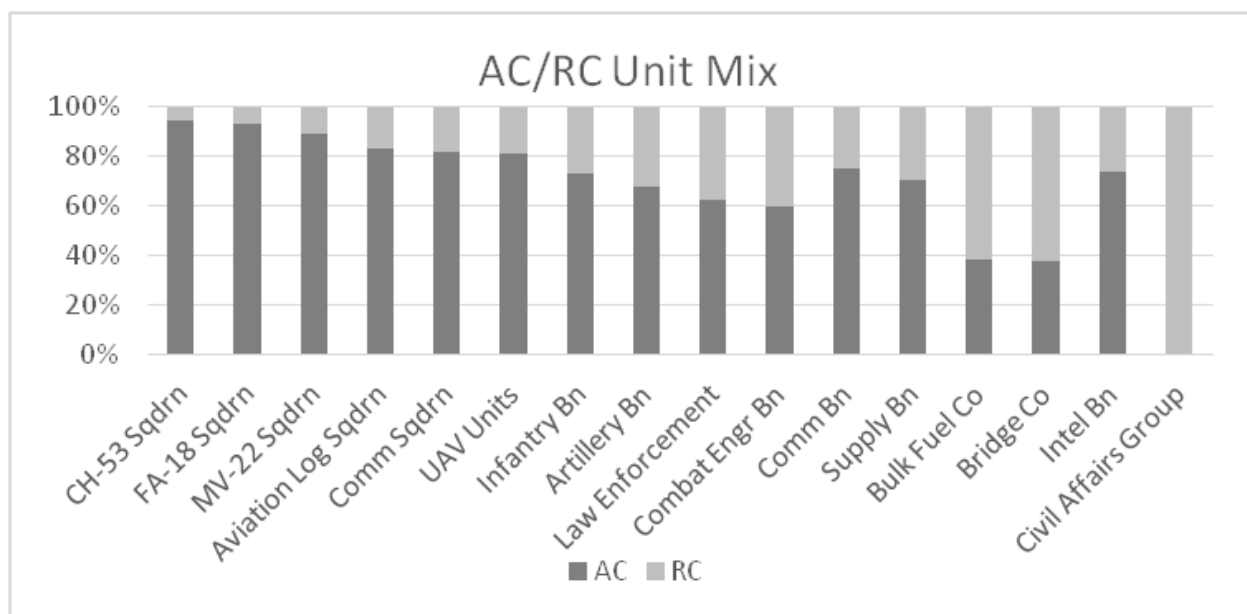


Figure 5. Sample AC/RC Unit Mix in a 174,000 Marine Corps

aviation units have a greater percentage of capacity residing in the AC, often above 90 percent, while service support capacity is frequently maintained as less than a 50 percent mix of AC units. The higher AC mix is a function of both the equipment and

personnel resources necessary to generate high-tech capabilities, making significant RC capacity inefficient and an unaffordable proposition.

The FY 2013 number of FTS Marines supporting the RC totaled 5,960 Marines. The majority of FTS Marines (4,369) is assigned to integrated table of organizations (T/O) and deploys operationally when the unit is mobilized. The remaining FTS Marines (1,591) serve in site support functions, remaining behind when the unit is called to active duty, or are assigned to Headquarters Marines Corps Title 10 functions.

As shown in Figure 6, active duty (FTS) personnel (excluding site support) outnumber Reserve drilling personnel in Reserve aviation flying squadrons. In contrast,

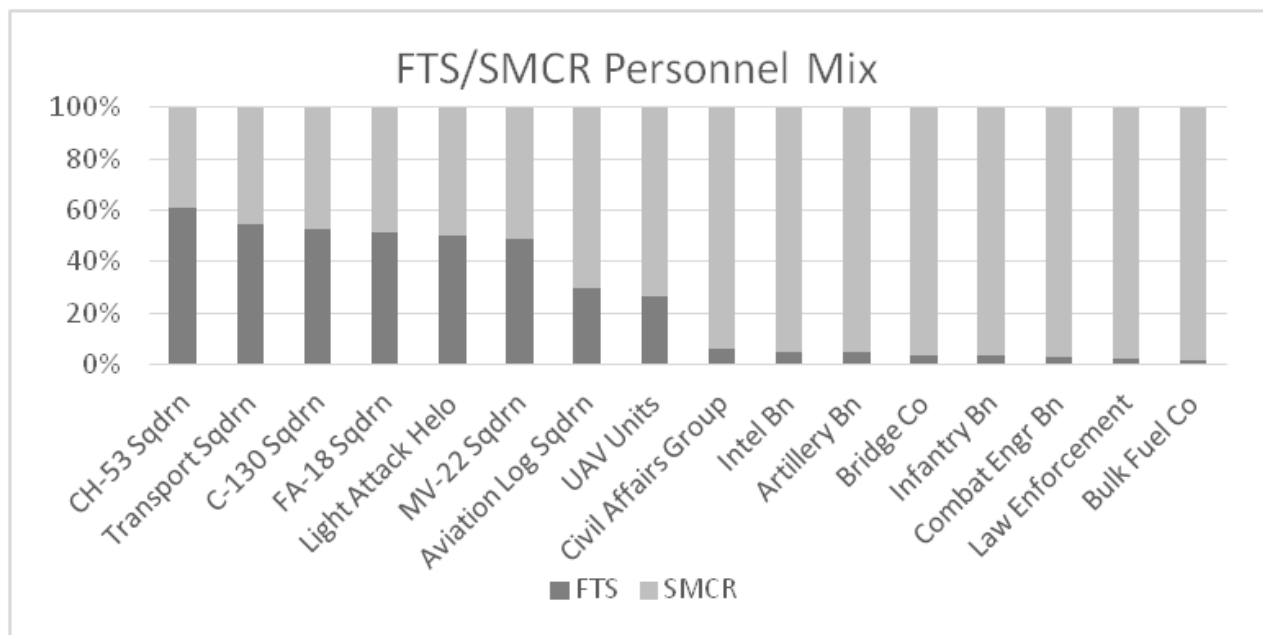


Figure 6. Sample FTS/SMCR Personnel Mix in a 38,500 Selected Reserve the average non-aviation unit personnel mix, with lower technical training and equipment, is less than five percent active duty (FTS).

The high percentage of active duty personnel assigned to an integrated aviation T/O is inefficient from two perspectives. First, these units are subject to a less intense

deployment to dwell ratio (1:5) than active units (1:2).²¹ The deployment to dwell ratio describes how often a unit can be deployed away from their home station for operational purposes compared to periods of operational rest. In this case, active units can be used at twice the tempo of Reserve units. Second, failure to access Reserve units in an operational role post-9/11 leads to an expensive Strategic Reserve aviation capacity.

Roles of the Marine Corps Reserve

With few exceptions (i.e., Operation Desert Storm), the Marine Corps Reserve served a strategic role from 1950 Korea until 2001 operations. It trained to Total Force standards, but had little expectation of utilization short of a total war requiring the nation's full mobilization. Its overarching mission was "maintaining strategic depth to meet U.S. military requirements across the full spectrum of conflict" as described in Department of Defense Directive (DODD) 1200.17.²²

Post-9/11, the Marine Corps Reserve transformed into an operational role. Consistent deployments using a sustainable operational model provided proof of its accessibility and reliability beyond the strategic role (Figure 7). During this period, 62,617 Marines reported for mobilization orders with a median mobilization length of 12 months. Twenty-five percent (15,652) of these Marines were mobilized frequently - two or more times including deployments to Iraq, Afghanistan, and the Horn of Africa. Marine Corps Reserve units were also included in the Marine Corps Unit Deployment

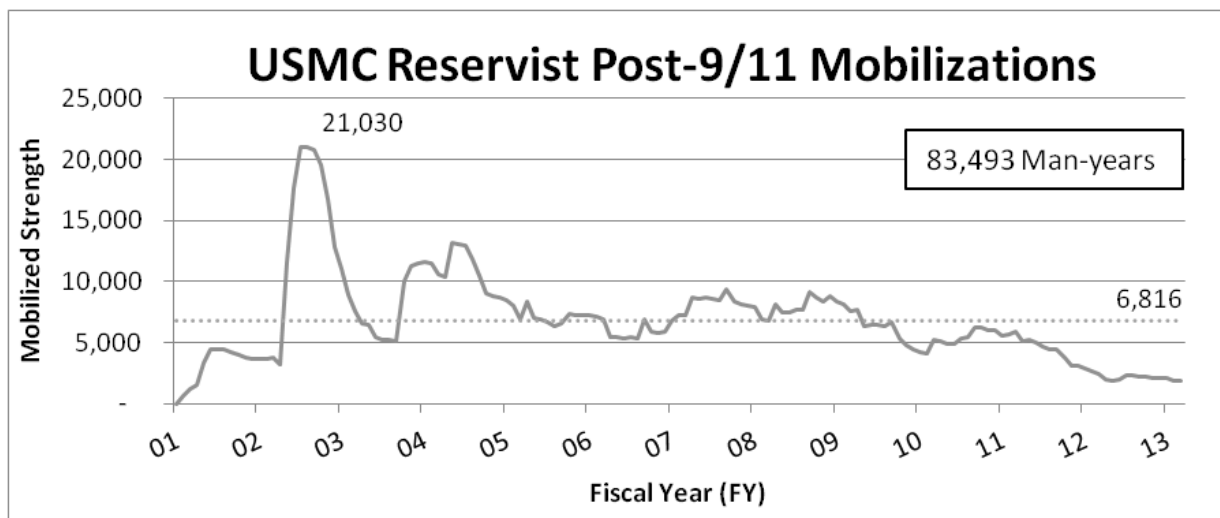


Figure 7. USMC Reservists Monthly Mobilization Strength from 2001 to 2013

Program (UDP) to Japan and various mil-to-mil engagements such as Black Sea Rotational Forces and the annual Egyptian Exercise Operation Bright Star. Overall, the Marine Corps sustained an average monthly mobilization strength of nearly 7,000 Marines representing approximately one-fifth of its surge potential (full mobilization capacity), excluding the less frequently accessed potential of the Individual Ready Reserve (IRR) and retirees. Deploying at this reduced rate proved operationally sustainable for over a decade and defied the strategic model which assumed a one-time full-mobilization.

Placement of Reserve units in the Marine Corps force generation model – how forces are produced for deployment – not only standardized the Operational Reserve, it also created a sharp edge of recent combat experience with over 85 percent of Reserve Marines deploying during their first-term. The frequent mobilization of units according to Secretary of Defense deployment to dwell requirements created individual and collective expectations of periodic deployments. With Reserve units returning to

Strategic Reserve status post-OIF, this informal expectation is not being met and the Reserve “edge” is beginning to dull.

Concurrently, the AC is reducing its strength in response to budget demands. Although the AC and RC face risk for different reasons, risk mitigation for both can be found in uniquely combining them.

Hybrid Units

The Hybrid Operational Reserve unit concept is a method to increase efficient use of scarce strategic resources – people, equipment, and funding. It achieves this via reduced active duty personnel costs and Reserve headquarters staffs, while preserving operational force readiness and capabilities. Higher sustained readiness of Reserve units will help to mitigate the risk of fewer full-time, ready active duty forces.

Reversibility, the ability to quickly re-grow operational capacity cut since departing Iraq, is enabled through the retention of active headquarters and operational Ready Reserve units. Transforming the Marine Corps Reserve into a long-term operational force reduces Total Force personnel costs by \$262 million per year and avoids lower post-deployment readiness. This approach also goes a long way to address the Marine Corps struggle with the issue of tiered readiness.

For the purposes of this research, a Hybrid Operational Reserve battalion is defined as AC and RC pure companies organized under the operational control of an AC battalion commander and headquarters. Using this construct, multiple RC companies are rotated through operational and strategic phases consistent with the unit-life cycle, typically 18 months. During the operational phase, Reserve companies would be on active duty in an operational status for approximately 12 months, followed by six months of inactive duty before transitioning to the strategic phase for an

additional 54 months of dwell. Thus, each Reserve company is activated for one out of every six years facilitating traditional UDP or Marine Expeditionary Unit (MEU) work-up schedules and deployment. The battalion's remaining AC companies are unaffected by this organizational construct.

For aviation units, a Hybrid Operational Reserve squadron consists of both active and RC personnel in a single integrated, active squadron. Similar to the battalion construct, Reserve personnel cycle between operational and Strategic Reserve statuses as squadron-level IMA sections. Personnel savings are generated through a 33 percent reduction in active duty costs for the rotating units/IMAs, reduced full-time support manpower overhead, and a reduction of eight Reserve group-level headquarters.

Doctrine

Current DOD doctrine does not differentiate between operational and Strategic Reserve statuses. The governing document for employment of the Reserve is DODD 1200.17 which requires the Secretaries of the Military Departments to manage their RC as an operational force using "voluntary duty, per section 12301(d)" of Title 10, United States Code (U.S.C.)²³ However, voluntary duty does not establish the necessary expectations of service members joining an operational unit, nor does it provide manpower stability crucial for force generation planning.

Doctrinal differentiation between operational and strategic statuses would establish an explicit social contract with military personnel. Recruits joining a Hybrid Operational Reserve unit would be provided the force generation rotational cycle consisting of operational and strategic phases to inform planning in their personal lives and facilitate civilian employer expectations. Service members could engage their

employers/educational institutions, families, and friends, reducing the friction resulting from unexpected active duty absence. Unit leaders and full-time support personnel could exploit inactive and active duty training periods to meet expected unit operational use and strategic goals. Although the examples in this paper are limited in scope to the Marine Corps, the principles could apply to any of the services. In addition, predictable operational use of the National Guard would enable interagency and intergovernmental state agencies to better plan for their deployed absence.

Modification of Department of Defense Directive (DODD) 1200.17, consistent with Title 10 involuntary authorities, would ensure predictable force generation planning. Specifically, 10 U.S.C. §12304b, as implemented in the National Defense Authorization Act for Fiscal Year (FY) 2012, provides statutory involuntary mobilization authority without declaration of a national emergency by the President.

When the Secretary of a military department determines that it is necessary to augment the active forces for a preplanned mission in support of a combatant command, the Secretary may, subject to subsection (b), order any unit of the Selected Reserve (as defined in section 10143 (a) of this title), without the consent of the members, to active duty for not more than 365 consecutive days.²⁴

Use of this authority and updating DODD 1200.17 appropriately, to include customary deployment to dwell ratios for the Reserve (one year deployed to five years dwell), would provide the services with the necessary tools to implement a cost-saving Operational Reserve.

Unit Life Cycles

Re-organization of the Marine Corps Reserve into Operational and Strategic Reserve categories enables minor modifications to the Marine Corps active duty unit life cycle (Figure 8). The current life cycle is divided into the three phases of pre-

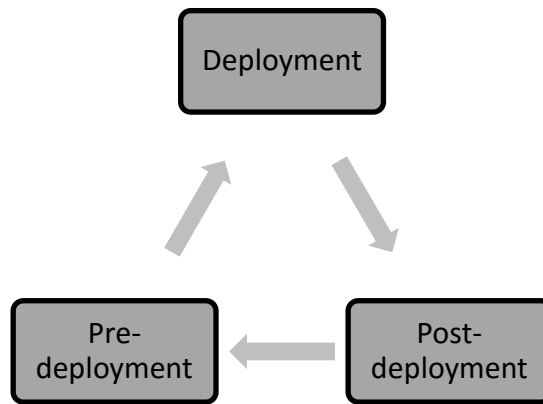


Figure 8. Active Component Unit Life Cycle.

deployment work-ups, deployment, and post-deployment dwell. In most MEU and UDP cycles, each phase is six months in length for a total cycle length of 18 months. Unit readiness peaks right before or during the second phase and is maintained until the end of the deployment phase. However, unit readiness and experience can quickly deteriorate during the post-deployment period as over half of the Marines in the unit reaching the end of their active duty contract or transfer to a different unit. Thus, the unit must be “reset” prior to beginning the next unit life cycle.

Adapting the unit life cycle to Reserve units will improve overall Marine Corps readiness by reducing the number of active duty units undergoing personnel turnover in the post-deployment phase (Figure 9). Reducing active duty personnel costs and maintaining experience in the unit during the post-deployment phase are competitive advantages. Reserve units return to an inactive duty status during the post-deployment phase saving active duty manpower costs. Upon completion of the post-deployment phase, the unit transfers from an operational to a Strategic Reserve status where the service continues to retain the benefit/edge of active duty training and experience.

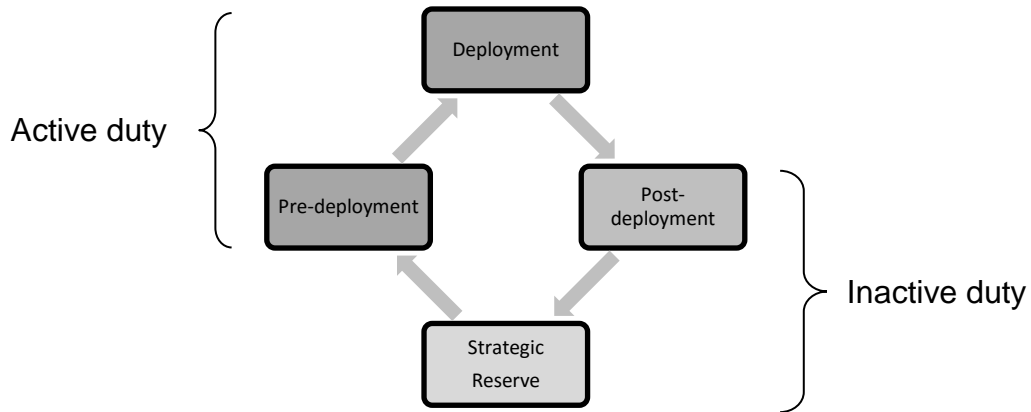


Figure 9. Modified Reserve Unit Life Cycle.

Lower personnel turnover in Reserve units is underpinned by longer tour lengths and first-term contracts. Unlike AC personnel, the current six-year contractual drilling obligation of Reserve first-term enlistments lowers annual turn-over to approximately 20 percent, increasing unit cohesiveness and readiness compared to the turbulence created in AC units by significant personnel rotations. Enlisted Marines are not required to transfer units until they exceed the grade restrictions for their unit, which often takes between 12 – 14 years.

The modified Reserve life cycle requires four units to rotate between 18-month operational and 54-month strategic roles in a “one-forward, three-back” construct. This formation results in up to 25 percent of Reserve units operationally postured, while the remaining 75 percent are assigned a strategic role pending their next operational rotation. Since only one year of the 18-month operational cycle is in an active duty status, the Marine Corps meets the 1:5 deployment to dwell objective while reducing Military Personnel Marine Corps (MPMC) active duty life cycle costs by over 33.3 percent and Reserve Personnel Marine Corps (RPMC) life cycle costs by 16.7 percent per rotation.

Comprehensive personnel compensation estimates substantiating lower Hybrid Operational Reserve annual ownership costs included the following elements: MPMC active duty pay, medical contributions, government social security contributions, basic allowance for housing (BAH), basic allowance for subsistence (BAS), clothing and uniform allowances, retired pay accrual (RPA), initial entry accession training and transient (T2) personnel rates, and Reserve inactive duty and annual active duty training.²⁵ For simplicity, the marginal cost savings are aggregated in Table 2. Marginal

Table 2. Annual Personnel Savings for Hybrid Infantry Companies Compared to the AC.

Unit Type	Pre-Deployment	MPMC Savings	BAH Delta	T2 Savings	RPMC Savings	Total Savings
Rifle Co	6 Mos	\$ 2,829,443	\$ (808,388)	\$ 643,482	\$ 1,226,315	\$ 3,890,853
Weapons Co		\$ 2,384,891	\$ (598,004)	\$ 518,390	\$ 965,108	\$ 3,270,384

MPMC savings included a 9.9 percentage-point reduction in Reserve RPA actuary contribution rates, accounting for the difference in Reserve retirement age, and were based on a one-year period of active duty for each 18-month cycle (six-month work-up, six-month deployment, and six-month inactive duty post-deployment.) Higher BAH costs for Reserve units are consistent with the large percentage of single AC Marines and non-commissioned officers (NCO) residing in government barracks compared to Reserve Marines who occupy civilian housing at their home station. This difference was offset by a decrease in the active duty T2 requirements necessary to support the generation of fewer AC companies. Annual RPMC inactive duty and annual training savings were based on a 1 year period of active duty and 6 month period of inactive duty (Operational Reserve), followed by a 4.5 year period of inactive duty (Strategic Reserve) as each unit cycles through their active duty operational rotation. Analysis of a

weapons company produced savings similar to the infantry company after adjusting for T/O differences.

Accounting for RC capacity to conduct a portion of pre-deployment work-ups in a drilling status could reduce the length of pre-deployment active duty training to less than six months; thereby, increasing MPMC life cycle savings (Table 3). For instance, a

Table 3. Example Personnel Savings Using Three-Month Pre-Deployment Work-ups.

Unit Type	Pre-Deployment	MPMC Savings	BAH Delta	T2 Savings	RPMC Savings	Total Savings
Rifle Co	3 Mos	\$ 4,244,165	\$ (606,291)	\$ 643,482	\$ 817,584	\$ 5,098,940
Weapons Co		\$ 3,577,336	\$ (448,503)	\$ 518,390	\$ 643,438	\$ 4,290,660

three-month pre-deployment work-up period would decrease MPMC costs by an additional 50 percent, while marginally increasing RPMC costs. As shown in Table 2, replacing one AC rifle company with a Reserve company would generate Total Force personnel costs savings of \$3.9 million dollars annually, while decreasing active duty pre-deployment work-ups to a period of 3 months would increase savings to over \$5.1 million dollars per year per unit (Table 3). Although this example illustrates the potential for additional savings and efficiency of a Hybrid Operational Reserve, the overall estimate of cost savings for implementation of this concept writ large uses the more conservative approach of a standard six-month work-up.

Hybrid Infantry Battalions

The FY 2020 ASR reduces the Marine Corps infantry capacity to 29 battalions (21 AC, 8 RC). Introducing the modified Reserve unit life cycle provides a “plug and play” capability enabling full integration of active and Reserve companies into Hybrid Operational Reserve battalions (Figure 10). Optimal configuration of the 24 Reserve rifle

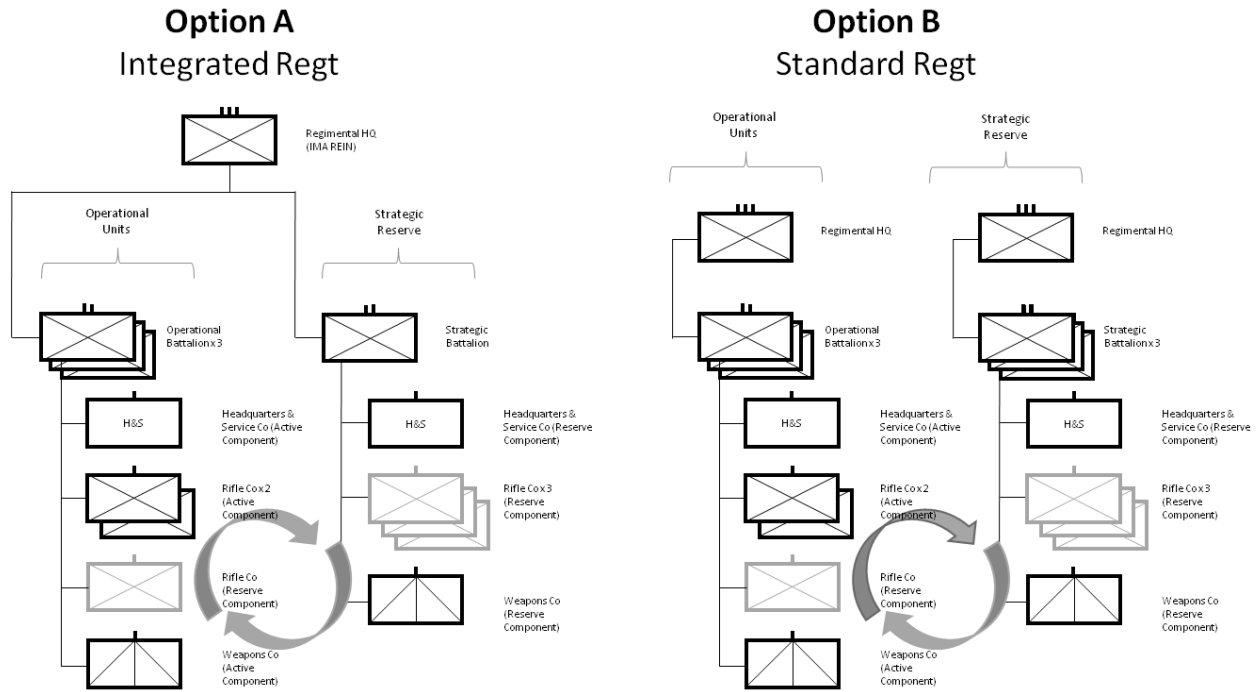


Figure 10. Hybrid Battalion Construct with Optional Regimental Integration.

companies (three per battalion) would source six Operational Reserve life cycles, one company per CONUS infantry regiment. In addition, the eight Reserve weapons companies would source two Reserve life cycles, one weapons company per CONUS Marine division.

The Hybrid Operational Reserve construct provides two potential regimental command and control options. *Option A* eliminates the Cold War-centric Reserve regimental headquarters at an additional cost savings of \$9.8 million (Table 4) and more closely resembles operational command and control post-9/11 where individual Reserve companies were often attached to active battalion headquarters. The integrated regiment also benefits from the addition of IMAs originating from the eliminated Reserve regimental headquarters staff.

Table 4. Operational Reserve Hybrid Infantry Battalion Personnel Cost Savings.

Option	Unit Type	Operational Sets	Savings/Set	Subtotal	H&S Co (2)	Regt HQ (2)	Total Savings
A	Rifle Co	6	\$ 4,123,819	\$31,678,399	\$8,071,906	\$9,774,695	\$ 49,525,000
	Weapons Co	2	\$ 3,467,741				
B	Rifle Co	6	\$ 4,123,819	\$31,678,399	\$8,071,906	\$ -	\$ 39,750,305
	Weapons Co	2	\$ 3,467,741				

Option B preserves the Reserve regimental headquarters which retains the traditional peace-time command and control of Reserve infantry battalions. MARFORRES retains administration of Reserve personnel in both options using the Inspector-Instructor (I-I) and site support personnel which are unaffected by either option choice. By transferring Reserve infantry battalions from strategic to operational capacity, the hybrid battalion construct reduces Strategic Reserve battalion headquarters' capacity at an additional personnel savings of \$8.1M (Table 4). The savings is achieved by eliminating the two unassigned Headquarters & Service (H&S) companies.

Advantages of adopting the hybrid infantry battalion construct include reversibility, more efficient use of integrated full-time support personnel, greater retention of post-deployment readiness at a lower cost, and maintaining the tactical "edge" of Reserve units. Reversibility is achieved through the retention of AC battalion-level staffs and career development pyramids – a 16-year manpower production cycle during peace-time and contingency operations. The flexibility of the hybrid design enables rapid expansion of AC end strength during extended combat operations through conversion of each Hybrid Operational Reserve company to full-time AC structure. Increasing Marine Corps capacity at the company-level under pre-formed battalion leadership, equipment, and facilities is desirable to building new battalions from ground zero. Warm starts are more efficient and effective than cold starts.

Marine Corps strategic depth is enhanced through repeated periods of active duty for Reserve personnel. Based on the typical six-year contractual drilling obligation for the RC, each Marine would be guaranteed one year of active duty experience during their first enlistment term. Simultaneously, integrated FTS personnel would better retain tactical expertise while assigned to a Reserve unit.

Reinvestment of Reserve regimental staffs into AC regimental headquarters as IMAs provides additional operational and strategic depth. IMAs also provide a manpower solution to the increase in AC regimental-level training readiness oversight (TRO) of the Reserve battalion and can bridge potential active-reserve cultural gaps. The regimental IMAs provide a robust staff capable of mobilization expansion for many irregular warfare operations and enhance regimental combat team capability through pre-trained individual augmentation. If necessary, regimental IMAs provide strategic reversibility of Reserve regimental headquarters for combat scenarios involving full-mobilization of the RC.

Marine Forces Reserve roles and responsibilities are unaffected by the hybrid battalion organization excluding the transfer of TRO to the AC regiments. Personnel administration, facilities, equipment, supply, and logistics remain unchanged. FTS Inspector-Instructor staffs would remain assigned as before and remain under the operational and administrative control of MARFORRES.

The Marine Corps has several options to capitalize on anticipated cost-savings of \$39.8 million to \$49.5 million for infantry battalion hybridization, depending on the regimental configuration and pre-deployment training period (Table 4). First, the Marine Corps could re-invest these savings in readiness, modernization, or other force

structure. Second, the Marine Corps could buy-back an AC infantry battalion lost in the 174,000 end strength reduction. Last, the Marine Corps could buy-back the infantry battalion strategic capacity eliminated in the Operational Reserve conversion and generate two additional infantry company Reserve operational life cycles. The estimated costs and impact on previous savings for each of these options is provided in Table 5 below using the savings estimate of \$49.5M.

Table 5. Example Force Structure Reinvestment Options.

<u>Capacity Buy-back</u>	<u>Qty</u>	<u>Cost</u>	<u>Operational Reserve Savings</u>	<u>Total Savings</u>
AC Infantry Bn	1	\$ 47,982,874	\$ 49,525,000	\$ 1,542,126
RC Infantry Bn	2	\$ 27,191,021		\$ 22,333,979

The closure of two regimental and battalion headquarters could result in congressional interest to retain a Marine Corps Reserve footprint in a district or state. In addition, site closure could lead to the loss of trained Marine Corps Reserve personnel in those locations through an SMCR end-strength reduction. However, reinvestment of just over half (\$27.2M) of the \$49.5M cost-savings into two supplementary Strategic Reserve infantry battalions would maintain the Reserve facility footprint, answer Congressional interests, and meet ongoing community relation (COMREL) objectives (Table 5). The retention of facilities would better “keep the faith” with transitioning Marines through local inter-unit transition or retraining opportunities for Reserve Marines and additional affiliation opportunities for AC combat veterans. Reinvesting in two Strategic Reserve battalions also provides the opportunity to expand current infantry company split-sites, while increasing the western U.S. Reserve footprint consistent with changing demographics. Alternatively, the closure of facilities would increase overall

savings through a reduction in Operations and Maintenance Marine Corps Reserve (O&MMCR).

Hybrid Aviation Squadrons

Introducing the modified Reserve unit life cycle in flying squadrons will generate greater efficiency by formalizing operational access of Reserve personnel and returning integrated active duty and site support personnel to AC squadrons. The current integrated T/O provides a full-time support strength that exceeds drilling Reserve strength. Active duty FTS personnel exceed drilling strength by a ratio of 3.4 to 1 in the experienced grades of E5 – E9 (Figure 11). Although drilling Reserves outnumber FTS personnel in the grade of E3, senior Reserve aviators have stated that the limited technical experience of these young Marines restricts their utility in the squadron for at least two years after completion of their initial accession training. This active duty period – consisting of a 13-week boot camp, 3-week Marine Combat Training, and 6-9 months of primary military occupational specialty training – is not cost-effective compared to the

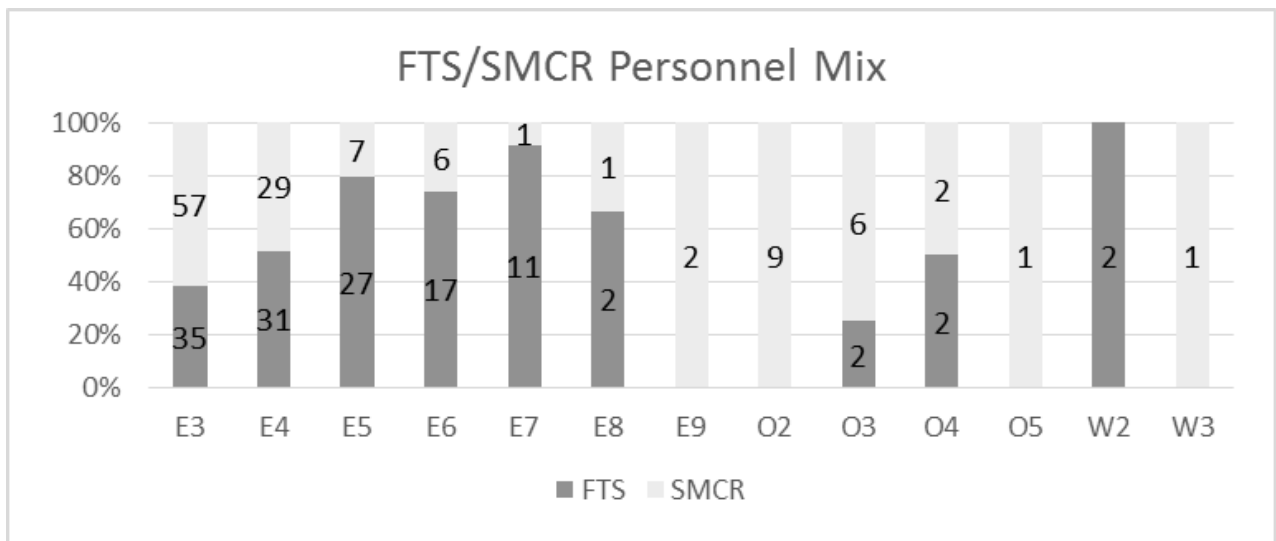


Figure 11. Active Duty/Drilling Mix in VMFA-112.

limited return on investment. On the contrary, the majority of pilots are Reserve aviators, often with two to four thousand military flying hours experience at a cumulative flight hour cost exceeding \$20 million. The pragmatic realization is that Reserve augmentation is crucial for officer leadership, but provides minimal contribution proportional to the T/O requirement for non-commissioned and staff non-commissioned officers. Non-prior service (first-term Reserve) personnel provide little return on investment for the first half of their enlistment.

Normalizing personnel costs per year of operational use enables likewise comparison of AC, Strategic Reserve, and Operational Reserve organizations based on traditional unit life cycles and deployment to dwell ratios.²⁶ This analysis demonstrates that Reserve squadrons cost less than AC units in a Strategic Reserve role, but cost more when periodically used in the Operational Reserve role of the past decade. As an example, annual personnel costs for a Strategic Reserve F/A-18 squadron are 67.1 percent of an AC squadron (Table 6). However, personnel costs increase to over 148

Table 6. AC and Strategic Reserve F/A-18 Personnel Cost Comparison (Includes T2).

Component	Personnel Costs
AC	\$ 17,208,896
RC	\$ 11,545,409

percent of an AC squadron under the OEF/OIF non-hybrid force generation model (Table 7), ignoring additional Reserve pre-deployment activation workup costs. In comparison, a Strategic Reserve infantry battalion costs 31.1 percent of an AC infantry battalion (Table 5) and increases to 86 percent of an AC battalion under the OEF/OIF non-hybrid force generation model (Table 7). These savings are negated by pre-deployment workups and policy which limits periods of involuntary activation to 12

Table 7. Normalized Traditional (Non-Hybrid) Personnel Costs Per Operational Year.

Component	Unit Type	Personnel Costs	Normalized per Operational Year
AC	VMFA	\$17.2M	\$51.6M
RC		\$11.5M	\$76.2M
AC	Infantry Bn	\$48.0M	\$143.9M
RC		\$14.9M	\$124M

months.²⁷ Thus, unlike Reserve infantry battalions, traditional Reserve squadrons inherently contain a hybrid personnel mix, but are not organized to exploit Operational Reserve capacity for use at a competitive cost without significant reorganization.

Based on these inefficiencies, the primary objectives of a hybrid aviation squadron are to better utilize full-time support personnel, while maintaining reliable access to prior AC Reserve pilots and mechanics with current technical qualifications. The hybrid aviation squadron should also ensure predictable force generation at the desired (1:5) Reserve deployment to dwell ratios and reduce overhead costs. The personnel rotation illustrated in Figure 12 meets these objectives using a personnel life cycle approach that mimics the Reserve unit life cycle shown in Figure 9. Prior service

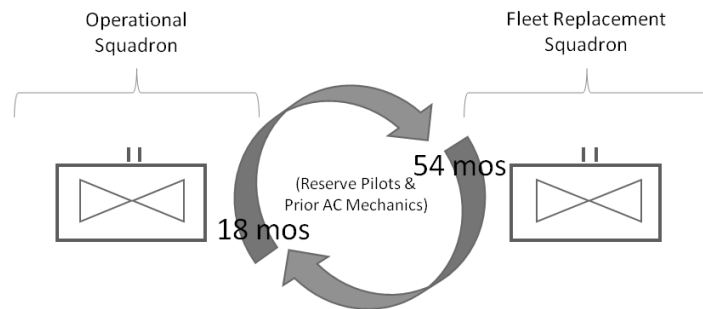


Figure 12. Example Operational and Fleet Replacement Squadron Personnel Rotations.

personnel would incur up to 12 months of active duty in pre-deployment/ deployment periods followed by six months of post-deployment drills, retaining unit readiness at reduced cost. After 18 months with an operational unit, Reserve personnel would rotate

to a fleet replacement squadron (FRS) for a period of 54 months providing dual effect operational support to the AC.

Implementing the hybrid squadron concept requires several organizational changes. First, the significant proportion of active duty FTS and I-I site support structure enables RC squadrons to transition to AC squadrons at a 2:1 ratio (two RC squadrons form one AC squadron). RC airframes and equipment would transfer with the structure to the new AC squadrons. Next, AC squadron structure for pilots and E-4 through E-7 personnel is transitioned to IMAs at an AC/RC personnel mix of 3:1 (three AC billets per RC billet). Up to 25 percent of FRS personnel are also transitioned to IMAs, while maintaining a 3:1 overall ratio of FRS to operational squadron IMAs (three FRS IMAs per operational squadron IMA). Administration of squadron IMAs is transitioned to MATSG-42, under command and control of 4th MAW, mirroring the existing MATSG-42/FRS relationship. This relationship provides for AC operational control of personnel under the administration of a Reserve organization. The Commanding Officer, MATSG-42 would ensure adherence to compulsory 18 month operational squadron and 54 month FRS rotations in addition to normal administrative functions. Last, the Reserve MAG headquarters structure is transitioned to IMAs in the AC MAG and the Reserve MAG headquarters eliminated. Opportunities for Reserve aviators to serve as Reserve battalion air officers would be unaffected by the Hybrid Operational Reserve construct.

Transition to the Hybrid Operational Reserve organization will save \$6.6 million in personnel costs for a Reserve F/A-18 squadron (not including reduced facility O&MMCR), while increasing AC capacity and maintaining the strategic reservoir of prior AC Reserve pilots and mechanics (Table 8). Dual effect operations in the FRS serve to

both maintain annual qualifications and provide transition/refresher training for the Total Force. A 0.5 squadron is estimated to cost 54 percent of a full squadron, accounting for

Table 8. Cost comparison of Strategic, Operational, and Hybrid Operational Reserve Models for VMFA-112.

<u>Model</u>	<u>Squadron</u>	<u>Cost</u>	<u>MAG IMA transition**</u>	<u>Total Cost</u>	<u>Marginal Cost</u>
Strategic Reserve	AC	\$17,208,896	-	\$ 28,754,305	-
	RC	\$ 11,545,409			
Operational Reserve	AC	\$17,208,896	-	\$ 42,187,543	\$ 13,433,238
	RC	\$24,978,647			
Hybrid Operational Reserve	Hybrid AC	\$ 16,064,394		\$ 22,110,695	\$ (6,643,611)
	0.5 AC	\$ 9,335,731	\$(1,694,651)		
	Operational Reservoir*	\$ (1,594,779)			
*Marginal cost of training squadron IMA pilots and mechanics (ratio 3 IMA/1 AC reduction)					
**Fair share reduction (22.2%)					

increased personnel efficiencies in a full squadron (i.e., some squadron functions to include the leadership are not easily split.) Thus, transitioning multiple squadrons will further increase savings by \$730 thousand per squadron. Only a portion of the MAG savings is included in Table 8, equivalent to the proportion of squadrons assigned to each MAG. If both MAG-41 and MAG-49 were eliminated, personnel savings of \$15.3M per year would be realized. This savings amount includes the additional cost of transitioning the Reserve MAG staff to AC MAG IMAs. Transfer of administration duties to MATSG-42 does not require additional overhead since this unit is currently operating below capacity.

The hybrid aviation squadron achieves all its intended objectives. First, FTS personnel are transitioned from a cost prohibitive 1:5 deployment to dwell operational tempo to an accessible AC unit, eliminating active duty site support requirements. The Marine Corps recapitalizes a significant investment in prior AC pilots and mechanics for dual effect training to provide operational support, while maintaining qualifications and

strategic relevancy. FRS IMAs provide a surge capacity and facilitate 24/7 operations, potentially reducing AC transition/refresher training overhead costs. The AC hybrid organization and personnel rotation cycles ensure consistent force generation and access at doctrinal deployment to dwell ratios, whereas post-deployment readiness is better maintained at a reduced cost. Reinvestment of Reserve MAG structure, as AC MAG IMAs, provides additional strategic depth while providing a surge capacity for an increased footprint during combat operations and individual augment sourcing.

Marine Corps Hybrid Operational Reserve Potential

Implementation of the Hybrid Operational Reserve concept writ large to MARFORRES operational capacity could save the Marine Corps \$349 million per year and \$1.7 billion over the FYDP in personnel costs (Table 9). Reinvestment of aviation

Table 9. Potential Hybrid Operational Reserve Savings and Reinvestment Costs.

Unit Type	Savings	Reinvestment	Cost
Hybrid Battalion	\$152,999,207	-	-
Regt/MAG	\$ 31,571,158	Regt/MAG IMAs	\$ 2,769,144
Hybrid Squadron	\$164,460,095	0.5 AC Squadrons	\$84,748,467
	\$349,030,459		\$87,517,611

FTS personnel in AC squadrons and regiment/group-level SMCR personnel in IMAs would reduce the savings to \$262 million per year and \$1.3 billion across the FYDP. The overall Hybrid Operational Reserve potential and savings were limited by the Marine Corps' investment in Selected Marine Corps Reserve companies and squadrons. This excluded 43.7 percent of MARFORRES structure (15,653 of 35,782 billets) such as non-aviation site support personnel required to provide traditional company and battalion-level administration, instruction, and training. The MARFORRES and major subordinate command headquarters were also excluded from Hybrid

Operational Reserve implementation, as well as capabilities not needed on a consistent operational basis - civil affairs and mortuary affairs.

Transition to the Hybrid Operational Reserve could positively impact other training, material, leadership, facilities, and non-personnel related costs. Reserve readiness would increase consistent with increased frequency and duration of training during the 12-months of active duty in the unit life cycle. O&MMCR training costs would decrease and Operations and Maintenance Marine Corps (O&MMC) would increase due to personnel activation transportation costs. Equipment and airframe requirements would decrease by 50 percent for Reserve squadrons transitioning to the hybrid squadron model at the additional AC squadron 2:1 ratio. The immediate aircraft surplus would help alleviate shortfalls during airframe transitions and conversions such as the F/A-18 to the F-35. Command and control of Reserve companies attached to AC battalions would mirror the relationship often observed during the previous 11 years of combat deployments. Finally, MARFORRES facility reduction would reduce facility maintenance O&MMCR costs.

The Hybrid Operational Reserve concept could generate institutional challenges. The transition of peacetime operational control of Reserve battalions to AC Regiments might present cultural friction. However, these would be mitigated by the addition of an equivalent IMA structure on each staff. Closure of Marine Corps facilities could generate undesired congressional interest; though, this could be avoided by the expansion of Reserve strategic or operational capacity in concerned districts. Each of these areas requires additional research and DOTMLPF/C analysis by the Marine Corps Total Force advocates (Figure 3) prior to implementation.

Conclusion

Recent authority introduced in 10 U.S.C. §12304b provide consistent access to a proven Operational Reserve capacity. The Hybrid Operational Reserve concept implements this authority by translating force generation and unit life cycle models to activate operational companies and squadron IMAs from the RC, similar to the force generation models of OEF/OIF. Appropriate operational use of these units and personnel maintains the relevance of the Marine Corps' strategic investment and recapitalization of prior AC experience, while protecting AC battalion-level and above leadership headquarters and career development opportunities.

Re-organization into a Hybrid Operational Reserve is a cost-effective method to meet requirements of an expeditionary "fight tonight" Marine Corps. Seamless, cyclical utilization of the Reserve in an operational role will maintain the tactical "edge" of Reserve units and preserve the Marine Corps' combat capacity in the Reserve. More efficient use of FTS personnel and higher post-deployment readiness, at an annual savings of \$262 million in personnel costs, provides a hedge against the projected rise in military personnel entitlement program costs and reduced budgets. All the savings identified are annual. Hybrid Operational Reserve savings realized over a longer period of 5, 10, or 15 years are dramatic.

Endnotes

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is a non-taxable allowance paid to enlisted and officers to offset the cost of meals. Medical contribution is the employer contribution towards Medicare. Initial entry accession training and transient (T2) personnel cost savings were calculated using manning controls submitted to the Total Force Structure Division (TFSD) by Manpower and Reserve Affairs (M&RA) for the FY15 Authorized Strength Report (ASR). All Reserve costs incorporate predicted participation rates inherent in the FY14 Budget Estimates. Annual Training is the cost of active duty annual training, normally for a period of 14 days plus 1 day travel. Inactive duty training is the cost of annual drill periods. Enlisted clothing and uniform allowances captures annual inactive and one-time activation payments provide for clothing and uniforms.

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