

# **Total Force 21**

## **Part II**

Developing a 21<sup>st</sup> Century Approach for Military Force Structure  
Planning

1 March 2011

## **PURPOSE**

The February 2010 Department of Defense Instruction on Accessing the Reserve Components<sup>i</sup> consolidated guidance on use of the reserves from multiple policy documents issued in response to the 2001 declaration of a National Emergency after the World Trade Center and Pentagon attacks. It set the stage for a new governing framework for force mix decisions based on increased reliance on the reserve components to support continuing operational missions. This paper builds on that framework and describes a Total Force planning approach for the 21<sup>st</sup> century that will allow sustainable and managed access to reserve component forces for steady-state operations.<sup>ii</sup> This approach will enable the services to fully leverage the advantages of the reserve components in the coming decade of severely constrained budgets by developing cost effective force structure plans that achieve the best balance among costs, steady-state operational capability and strategic surge capacity.

## **DRIVING FORCES AND ASSUMPTIONS**

The driving forces for transforming the Department of Defense in the last decade were largely related to changes in the nature of the threat that our nation faced and the ways that technology advances allowed the military to defeat the threat with fewer and more capable forces. Asymmetric threats, distributed operations, and net-centric warfare were the descriptive terms for the change process. The approach outlined in this paper is based on the assumption that the driving forces for change in the next decade will be largely related to global economic conditions and pressures on the U.S. budget – servicing debt, deficit reduction, and affordable national security will likely become the new terms of reference for change.

Reductions in defense spending over at least the next five years are a certainty. Military planners will therefore face difficult choices in the years ahead as they balance resources to achieve an affordable mix among cost, steady-state capability, and wartime surge capacity. The Total Force 21 approach offers new options to inform these difficult decisions.

The term steady-state capability is used in the Total Force 21 approach to refer to the ability of planned force structure to meet continuous or recurring operational mission commitments. It is based on planning for assured access to reserve forces using call-up or partial mobilization authority and a sustainable force generation model<sup>iii</sup>. It also assumes force management in execution that includes volunteerism<sup>iv</sup> to improve the steady-state participation ratios for both the regular and reserve components but counts on involuntary authority when volunteerism is not sufficient to meet operational commitments.

The term strategic surge capacity is used in this paper to refer to the maximum amount of a component's force structure that can be made available to support large-scale contingency or wartime operations. It assumes Mobilization Authority sufficient to meet surge requirements and supporting supplemental funding authority<sup>v</sup>.

## **BACKGROUND**

Demands for a peace dividend at the end of the Cold War led to reductions in defense spending and a smaller military force. That, coupled with increased requirements for military engagement, resulted in greater demand for the reserve components to augment active component steady-state operational missions. Ensuing changes in policies, plans, and laws ultimately enabled the reserve components to transform from a force focused primarily on training for major conflict to a force focused on supporting steady-state operations. The services responded to changing conditions and balanced the competing demands of readiness training and current operations by incorporating reserve component force generation into their operational planning and force management/force presentation decision making processes.

Many things changed as a result of these actions. The Department of Defense created new rules to institutionalize and sustain the operational aspect of the reserve components; the military services incorporated the new construct into their operational planning and execution processes; the reserve components changed their organizations and cultures; and reservists, their families and employers changed their expectations of service in response to the new reality. Yet, the services have not fully integrated this model into their force structure planning and programming processes. They should take this logical next step in order to fully leverage the potential cost savings and operational efficiencies that the Total Force 21 framework offers.

## **DISCUSSION**

The Department of Defense Policy on Utilization of the Total Force established the basis for a new framework for managing cost, capability and risk in balancing forces among the active and reserve components based on assured, predictable, and sustainable access to the reserves to support steady-state operations. The new framework allows the services, when faced with large budget reductions, to allocate a greater portion of daily operational missions and associated force structure to the reserve components, resulting in significant cost savings while preserving important wartime surge capacity.

This paper does not advocate arbitrary reductions in force structure of any component; rather, it postulates that the Total Force 21 approach will enable force structure planners to take full advantage of the changes that the new framework brings to the table in order to optimize cost-efficiency of the force and maximize retention of wartime surge capacity in the face of large budget reductions.

### **COST, CAPABILITY AND CAPACITY**

It is important to recognize key distinctions among the active and reserve components in allocating missions and forces. Three of the most important are cost, operational capability, and surge capacity.

Comparative cost analysis among the different services and components is complex and based on highly variable assumptions that almost always leave the conclusions subject to exception or question. This often leads to analysis that is overly complex in order to address all possible variations, or to conclusions that do not allow decisions with a high degree of consensus or confidence. This paper avoids these traps and does not attempt to provide program or budget level cost analysis or offer conclusions on the most effective force mix. Rather, it outlines general concepts and relationships among personnel cost drivers associated with different component force structure options that open the door for force planners to think differently based on the Total Force 21 approach. The following are some of the more critical elements of the approach:

- Active component units cannot commit all of their forces to support sustained, steady-state operations because they must undertake routine training and force management activities including personnel accessions, separations, leave, professional development, and staff tours. The same is true for reserve component units whose participation is further limited because they are not designed to be full time forces. Some forces are also not available for operational deployment because they support critical in-place operational and institutional support missions.
- Personnel and operations costs to support a given number of operational duty days are approximately the same whether they are performed by Active, Guard, or Reserve personnel. On the other hand, personnel and operations program costs<sup>vi</sup> associated with the force structure required to sustain this steady-state operational activity differ significantly between the active and reserve components.
- Active component personnel costs remain relatively constant whether they are performing steady-state operational duty or they are in a dwell period supporting training, exercises or other duties. Personnel program costs for the reserve components, however, are significantly less due to lower

participation requirements during dwell periods. This is because reserve components are programmed primarily as part time forces, and reservists are paid only for actual duty days performed. Traditional reservist drill duty is based on statutory requirements of 24 calendar days for inactive duty training and 15 days for active duty training per year<sup>vii</sup>. Many reservists are required to serve additional training periods to maintain qualifications in technical skills or complex missions, but these vary widely by service and specialty, and some can often be completed on voluntary operational missions or exercises during their dwell periods<sup>viii</sup>. In any case, there is no single reserve component total annual training-day number that applies universally, but reservist dwell period training days should be significantly fewer than the 365 days-per-year program rates of active component personnel.

- Rotation-base costs to sustain deployed operational forces must be considered in a detailed analysis. These costs will vary but will be incurred at some level by all components to sustain long term operations – even for active component forces that are permanently based overseas due to controlled tour lengths and higher experience level requirements for these forces. Additional cost associated with rotating personnel and/or equipment on a frequent basis must also be considered, especially when leveraging short-term volunteers to support long duration missions.

The planning example and conclusions that follow are based on current Department of Defense mobilized duty to non-mobilized dwell participation policy that establishes a participation ratio of 1:5 for reservists and assumes a maximum of one year (365 days) mobilized duty followed by a five year non-mobilized dwell period with statutory annual training duty per year. This results in program costs based on 680 pay days over six consecutive years for an individual reservist, while the same six years for an active component counterpart would have a cost basis of 2190 days.<sup>ix</sup>

Two aspects of this example are especially important to note. First, while it treats potentially complex variables through a simplified presentation, the relationship among the variables that drive the costs should remain relatively consistent across a range of complexity and assumptions. Second, while actual dwell period duration may vary by service, mission and individual military specialty, the basic relationships portrayed by the model will encompass typical variations across the military services and operational specialties. The Air Force, for instance, currently uses a 180 day mobilized duty/900 day dwell model instead of the one-year/five-year model for many of its forces while still complying with the 1:5 policy ratio. Thus, while actual relationships of cost, return on investment, and capacity can be complex, the

following example portrays the basic relationships among the important variables for the purposes of defining an approach for force planning.

Using the force generation model approach in a notional scenario with an operational duty/dwell ratio of 1:5 and a one-year mobilized duty period, it would take six fully trained reservists to sustain a continuous six year operational capability of 2190 duty days, while the same capability would require four active component personnel assuming a sustainable deploy/dwell ratio of 1:3<sup>x</sup>. The four active component personnel would generate a cost basis of 8760 days to support the steady-state mission and would also provide a maximum wartime capacity based on the same 8760 days. The same steady-state capability provided by the reserve forces would generate a cost basis of 4080 days for the six reservists who would have a fully mobilized wartime capacity of 13,140 days.<sup>xi</sup> In essence, the reserve option has the potential to cost much less to sustain a given level of operational capability while at the same time providing much greater capacity to support future surge requirements.

This example does not show the impact of additional days that may be required to maintain continuity in support of sustained operations by overlapping deployment of forces as they cycle through duty and dwell periods, nor does it address post-mobilization training and administrative activities. These factors are highly variable depending on the service and type of forces involved as well as the nature and location of operational missions. They may impact both active and reserve cycles and will increase the number of reservist duty days required to sustain a single continuous operation over an extended period of years. A targeted approach to dwell period training and force rotation management, however, can reduce the amount of post-mobilization training for many reservists<sup>xii</sup>.

Since cost is a complex issue with many variables, this example is focused on general concepts and relationships to show the potential impact of the Total Force 21 approach. Actual program costs will vary and can be modeled using standard service programming factors, but the results and second-order impacts can vary significantly depending on the assumptions and business rules used.

## **VOLUNTEERISM AND MOBILIZATION**

The legacy approach to force planning depends heavily on volunteerism for steady-state operations, and it can significantly underestimate potential reservist availability compared to the Total Force 21 approach. This is because it projects future participation rates from historical volunteer data and does not leverage mobilization authority and Department of Defense policy that can assure higher future participation rates with greater certainty. The reliance

on historical volunteerism rates also bolsters an overly conservative approach to the use of reserve components in force structure planning and can result in force structure plans that retain a greater number of higher cost full-time forces to compensate for limitations on assured availability of reserve component forces under the volunteerism-based planning model.

The Total Force 21 approach, on the other hand, relies upon involuntary call-up or partial mobilization authority to allow planning for predictable and assured participation by reservists. Planning based on sustained involuntary activation authorities allows the services to adopt a new steady-state planning approach with assured access to reservists through call-up or mobilization while still allowing commanders the flexibility to use volunteerism in execution based on service policy. This permits planning for defined levels of reserve force support to daily operations based on sustained mobilization authority with policy-driven duty to dwell cycles; making it possible to predict and manage reserve component contributions to steady-state operations under varying scenarios based on cost and risk.

The Total Force 21 approach treats execution management differently than force structure planning. This approach is based on execution force management that includes the use of volunteerism to balance the variables associated with Total Force steady state operations. This can allow the services options to moderate steady-state dwell ratios of both active and reserve forces by leveraging a potentially large pool of reserve volunteers. It can also allow the services to manage the variables associated with volunteerism and personnel retention in the reserve components; i.e., participation rates and volunteerism capacity are situation-based and dependent on timing of events in individual reservist civilian careers and personal family circumstances. Execution force management practices must balance short-term participation needs with longer-term considerations related to personnel retention and replacement costs, but continued high recruiting and retention numbers for the reserve components over the last decade indicate that the culture and expectations of reservists and their families have adapted to the new policy on mobilization, thus demonstrating that it is possible to manage the force to sustain continued participation given the predictability of mobilization vulnerability under the force generation model

The Total Force 21 approach will allow planners to determine the capability of the reserve components to support daily operations on a sustainable basis with a high degree of confidence, while at the same time providing predictability to reservists when they are vulnerable for involuntary duty to support steady state operations and when they are not vulnerable. This will allow the services to program and maintain a much larger Total Force at a given level of funding; thus preserving maximum warfighting capacity as funding levels decrease. As

the services are driven to consider rebalancing their portfolios to comply with reductions in funding authority, they can now leverage the new approach to look for greater opportunities to align mission capabilities between the components to achieve the best balance to support steady-state operations while preserving wartime capacity.

## **SUMMARY**

Force structure planning based on a traditional, outmoded view of the reserve components as primarily a strategic surge force can have many potential downsides: it can create inefficient outcomes that have an immediate impact on warfighting capacity; it can lead to exchanging trained and available combat forces in the reserve components for options that create added costs for recruiting and training new personnel for the active component; it can also affect active component operational capability by limiting deployment of experienced personnel who must be available to supervise, train, and develop the experience level of new accessions. It can also lead to reductions in reserve component positions that could be used to absorb future losses of highly experienced personnel from the active component.

The Total Force 21 approach to force mix focuses on force structure planning that balances cost, steady-state operations capability, and surge capacity, with involuntary activation authority and volunteerism in a sustainable force management model. It relies on the fact that reserve forces are ready, available, and accessible to fulfill operational requirements, and that they can be sustained at significantly lower program cost than full-time active forces. The Total Force 21 approach relies on a sustainable level of involuntary participation capability for steady-state planning, while still retaining the capacity to surge for extended periods under expanded mobilization authority. It also allows for volunteerism in execution to better manage the Total Force. This approach to force planning offers the potential of a cost constrained force that is agile and responsive to uncertainty and rapid changes in national priorities, while mitigating the potential loss of surge capacity and the high cost associated with the traditional approach to planning force mix. It acknowledges that the reserve components have become a responsive operational force that allows the services to respond quickly and efficiently to funding reductions without creating the warfighting capacity gaps and large active component recruiting and training bills associated with the traditional force planning model. It also offers the potential of developing balanced force structure portfolios based on analysis and understanding of alternatives rather than intuition and emotional argument.

This paper is based on the premise that the nation is fast approaching a critical point where a number of converging factors will make large-scale adjustments to defense resource strategy likely. The combination of continuing global economic challenges and the need to support overseas steady-state operations will set the stage for significant changes in the military as we reduce our presence in Afghanistan and Iraq and look for efficiencies in the defense budget. This will be a defining moment for the Total Force. It will require an analytical framework that balances cost and operational effectiveness, and it will require bold action to ensure that the services leverage the strengths of all components to respond to future challenges with a robust set of cost efficient capabilities.

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<sup>i</sup> DoD Policy Directive 1235.10, 26 November 2008 and DoD Instruction 1235.12, February 4, 2010 consolidated multiple earlier policy memoranda and formalized policy guidelines for accessing the reserve components. Standards for RC usage include the following:

- Involuntary mobilization of RC forces for a maximum of 1 year at any one time
- A dwell ratio of 1 to 5
- The approval of a mobilization order 180 days prior to the mobilization date
- The authorization of an alert notification up to 24 months prior to the mobilization date
- A minimum of 30 days notification prior to involuntary mobilization to support emergent requirements
- Plan force structure on the basis of the 1:5 goal

<sup>ii</sup> The Total Force 21 approach is based on reserve forces utilization in a framework of assured access to reserve forces to support steady-state operational missions based on DoD Policy for accessing the reserve components. The primary authority currently in use for this purpose is Partial Mobilization under Title 10 USC 12302 which allows the President to involuntarily activate up to one million reservists for a maximum of 24 consecutive months. This authority is based on Presidential Proclamation 7463, 14 Sep 2001 that declared a national emergency in response to the World Trade Center and Pentagon attacks and has been subsequently extended for use in activities related to combating terrorist extremism world-wide. The other authority that is used to support steady-state operations is Presidential Reserve Call-Up under Title 10 USC 12304 which allows the President to involuntarily activate up to 200 thousand reservists for a maximum of 365 days. There is a proposal to modify 12304 to better support steady-state operations since Title 10 USC 12302 is limited to declared emergencies and may not be available to support steady-state operations that are not directly related to the current declaration. Presidential Reserve Call-Up could be used in this case and would fit the one-year mobilized duty period of the force generation model; however, the ceiling is limited to 200 thousand which could limit the ability to surge under this authority if steady-state activity remains high, and the 365 day limit is not defined as consecutive days which could lead to legal interpretation issues with repeated use. The Total Force 21 approach assumes one of these authorities will be available and sufficient to support steady-state operations for purposes of force structure planning. The Total Force 21 approach treats execution differently than force structure planning. Execution procedures incorporate the use of reserve volunteers through a force management process that balances involuntary and voluntary participation to manage duty/dwell stress and sustain force readiness over the long term. It also acknowledges that each service has its own unique approach to how volunteerism fits into their force generation model; thus, there is no one-size-fits-all solution.

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<sup>iii</sup> The force generation model is based on cycling forces through different readiness and participation phases on a scheduled basis to ensure a sustainable and managed approach to force readiness and deployment. The model includes a deploy phase where operational force elements perform extended operational duty, generally in a deployed status overseas. This is followed by a dwell phase where the forces perform reconstitution actions that involve personnel replacement, individual skills training, and professional development activities followed by a period of targeted readiness training to prepare the forces for their next deployment phase. Reserve component forces have developed force generation models that are based on current policy guidance that establishes a planning objective ratio for involuntary mobilization of 1 year mobilized to 5 years dwell time (1:5). Some services use this one-year period as their standard, creating a one-year mobilized/five-year dwell cycle; while others use different mobilized periods based on their service-unique requirements. The Air Force, for instance uses 180 days as a standard mobilization period for many forces, although deploy/mobilization/dwell ratios vary among different military specialties.

<sup>iv</sup> It has been a common practice in the Air Force Reserve and Air National Guard for many years to rotate personnel on voluntary tours ranging from two weeks to 30 days in duration to enhance their ability to support operational requirements. The shorter tour length allows the reserve components to provide greater flexibility for their members to work around their civilian careers, increasing voluntary participation rates and reducing the need for involuntary mobilization. This has been a better fit for the Air Force than the Army or Marine Corps because the Air Force trains their reserve component personnel to the same standard as their active component counterparts, and they employ forces in smaller maneuver size elements which facilitates rotation of personnel with acceptable impact on combat effectiveness. There is an incremental cost increase for this approach; however, that is associated with frequent personnel rotations and must be considered when programming resources to sustain steady-state operations.

<sup>v</sup> The services use a combination of baseline budget authority and supplemental Overseas Contingency Operations (OCO) authority to pay for reserve component man days for operational missions. The TF 21 Approach assumes that steady-state operations will be supported by both baseline and OCO funding and surge operations will be supported by OCO based on the existing Partial Mobilization authority linked to the September 2001 declaration of a national emergency or some future declaration-based authority in response to a contingency surge requirement.

<sup>vi</sup> Program costs span multiple years and thus will accommodate both the high-cost mobilization periods for reserve forces as well as the lower-cost dwell periods to allow accounting for costs over force generation model cycles in service programs and budgets.

<sup>vii</sup> Statutory annual requirements for reservists include 48 inactive duty training pay periods of four hours each based on two periods per day for each monthly two-day unit training assembly. It also includes a two-week active duty annual training event of 14 to 15 days. As a basis for cost comparison, each inactive duty training period is treated in this paper as a full day even though the actual program cost is somewhat lower than an active duty day. Many reservists perform additional training days, so this must be treated as a variable in a program or budget-level analysis.

<sup>viii</sup> This is especially true in the case of the Air Force that often leverages dwell period volunteers to support customer-funded missions in lieu of additional training-funded activity.

<sup>ix</sup> Reservist duty/dwell calculation is based on a DoD policy goal of a maximum one year involuntary mobilization period followed by five years of non-mobilized dwell time. Since the one year period is a maximum, services often use a shorter time frame such as 180 days to define a mobilized duty period followed by five cycles in dwell based on the same number of days in a cycle; for instance, 900 (180 x 5) days dwell based on 180 days mobilized duty. Active component deploy/dwell calculation here is based on an assumed goal of one year operational deployment followed by three years dwell time (1:3). This ratio may vary by service, but 1:3 is assumed to be a level that will sustain the force over an extended period. The ratio could be varied for either component based on service policy or for sensitivity analysis, but the basic model relationships would remain the same. The six year cycle would equate to one operational period of 365 consecutive days mobilized operational duty for reservists followed by five years of statutory duty of 24 days (48 pay periods) inactive duty plus 15 days annual active duty. As a basis for cost comparison, each inactive duty training period is treated in this paper as equivalent to a full pay day even though the actual program cost is somewhat lower than an active duty day. The basis for comparison for reservist participation during dwell is then computed by adding 15 active duty pay days to 48 inactive duty pay days; equaling 63 pay days on an annual basis. Total cost basis for a six year operational cycle is then based on 1 year of mobilized duty of 365 days plus 5 years at 63 days/year during dwell, which equals 680 days over a six year period. The same six year cycle for full time active duty personnel would equate to 365 consecutive days each year which equals 2190 days over the six years.

<sup>x</sup> The following examples of duty/dwell cycles for continuous operational capability over a six year period are intended to show basic force generation model relationships. They are based on minimum statutory training requirements and do not include requirements for additional skills training or for post-mobilization training and leave for the reserves. These must be considered in an actual analysis because they will increase the cost basis. For instance, adding three months of post-mobilization, non-deployed activity to the reserve example would increase the number of reservists from six to eight to provide continuous deployed support :

**Reserve Component at 1:5 Mobilization/Dwell**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Totals
Person 1	<b>Mobilize</b>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	680
Person 2	<i>dwell</i>	<b>Mobilize</b>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	680
Person 3	<i>dwell</i>	<i>dwell</i>	<b>Mobilize</b>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	680
Person 4	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<b>Mobilize</b>	<i>dwell</i>	<i>dwell</i>	680
Person 5	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<b>Mobilize</b>	<i>dwell</i>	680
Person 6	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<b>Mobilize</b>	680
<b>Totals</b>	680	680	680	680	680	680	<b>4080</b>

- Mobilize period based on 365 days active duty
- Dwell period based on 63 days statutory training duty

**Active Component at 1:3 Deploy/Dwell**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Totals
Person 1	<b>Deploy</b>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<b>Deploy</b>	<i>dwell</i>	2190
Person 2	<i>dwell</i>	<b>Deploy</b>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<b>Deploy</b>	2190
Person 3	<i>dwell</i>	<i>dwell</i>	<b>Deploy</b>	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	2190
Person 4	<i>dwell</i>	<i>dwell</i>	<i>dwell</i>	<b>Deploy</b>	<i>dwell</i>	<i>dwell</i>	2190
<b>Totals</b>	1460	1460	1460	1460	1460	1460	<b>8760</b>

- Deploy and dwell periods based on 365 days active duty

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<sup>xi</sup> Notional Analysis:

- Active component cost basis for six year continuous operational capability:  
365 days/year x 6 years = 2190 days x 4 personnel = 8760 days
- Active component wartime surge capacity for same case: 2190 days x 4 personnel = 8760 days
- Reserve component cost basis for six year continuous operational capability:  
365 days for mobilized year + 63 days x 5 dwell years = 680 days x 6 personnel = 4080 days
- Reserve component wartime surge capacity for the same case: 365 days/year x 6 years = 2190 days x 6 personnel = 13,140 days
- Pre-mission training and post-deployment administrative time is not included in the analysis. When required, it will reduce deployment time and thus will increase the number of personnel required to support continuous operations. For example, 90 days pre-deployment training after reservists are mobilized would increase the number of reservists to support continuous operations from six to eight. A similar situation would also occur for both active and reserve components if forces are required to overlap in a deployed status to maintain continuity of operations. Additional dwell period training days would also be required to support individual and unit skills training requirements for reservists in technical skills such as aviation that often allow up to 48 additional voluntary training periods above the minimum statutory requirements.

<sup>xii</sup> The Independent Panel Review of Reserve Component Employment in an Era of Persistent Conflict (Reimer Panel Report), 2 November 2010 treats the issue of dwell period and post-mobilization training in detail in Chapter 4, Employing the Force. This is based on a tiered readiness approach inherent in the Army Force Generation Model that requires post-mobilization unit skills training and would vary for other services. In the non-tiered-readiness model that the Air Force uses, for example, readiness training would be spread across dwell periods and post-mobilization training would be limited to unique missions and skills.