

DYING ON THE VINE:  
AIR COMBAT COMMAND'S STRUGGLE TO PROVIDE COMBAT-READY  
AIRCREWS WITH LIMITED RESOURCES

BY  
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## APPROVAL

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## **DISCLAIMER**

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.



## **ABOUT THE AUTHOR**

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## ABSTRACT

This study analyzes the ability of Air Combat Command's (ACC) Ready Aircrew Program (RAP) to produce sufficient numbers of combat-capable aircrew in light of significant cuts to the Air Force's Operations and Maintenance (O&M) budget resulting from the 2011 Budget Control Act (BCA). The author begins by providing the reader a summary of the current defense strategy enumerated by the 2012 Defense Strategic Guidance (DSG) and the 2014 Quadrennial Defense Review (QDR). The author then explains how strategic-level objectives translate into tactical tasks for training and execution by ACC combat squadrons. Next, the author provides the reader a detailed discussion on the purpose, structure, and effectiveness of ACC's current training model, RAP. After explaining the current problems faced by RAP, and the effects of those problems on the readiness of the combat air forces, the author presents two alternative training models, the Tiered-Readiness Program (TRP) and the Specialized-Readiness Program (SRP). The goals of the alternative readiness models are to provide combat air forces of sufficient capability and capacity to meet strategic defense objectives and do so within the current resource-limited environment. After explaining the logic, structure, and characteristics of the alternative models, the author compares funded RAP, under-funded RAP, TRP, and SRP through a non-weighted numerical comparison technique derived from the COA Comparison step of the *Joint Publication 5-0* Joint Operation Planning Process (JOPP). The results of the model analysis provide several vital insights about how ACC should change its aircrew-readiness training methods to ensure that present and future combat air forces are capable of fulfilling their operational and tactical tasks.

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## Introduction

*Airpower is more than dropping bombs, strafing targets, firing missiles, providing precision navigation and timing, or protecting networks. It is also a way of influencing world situations in ways which support national objectives. – Air Force Basic Doctrine*

In 1996, amid force downsizing, budget cutbacks, and declining readiness, the United States Air Force's Air Combat Command (ACC) created and tested a new method of determining flying requirements, reporting combat capability, and distributing training resources to improve the quality of aircrew training.<sup>1</sup> Coined the Ready Aircrew Program (RAP), the first year's testing of RAP met command objectives, and the program expanded to cover all ACC combat squadrons in 1997. RAP remains in use today.

Despite enduring fiscal shortfalls in succeeding years, the RAP model produced combat-mission-ready (CMR) aircrews who successfully executed their missions in Operations Allied Force (1999), Enduring Freedom (2001), Iraqi Freedom (2003), and Odyssey Dawn (2012). As a result of the expenditures on the wars in Iraq and Afghanistan, Department of Defense (DoD) budget cuts mandated by the Budget Control Act of 2011 and now sequestration, RAP no longer appears able to absorb the blows of underfunding while still producing the quantity and quality of combat-ready aircrews necessary to execute the National Defense Strategy.

This potential inability of the Air Force to fulfill its defense obligations leads to the central question of this paper. Are the combat air forces ready to fly, fight, and win? More specifically, under the current and projected Air Force Operations and Maintenance budget, is RAP executable and is it able to produce combat-ready aircrews capable of supporting the defense strategy presented in the 2012 Defense Strategic Guidance and the 2014 Quadrennial Defense Review? According to internal ACC analysis and public testimony by Air Force leadership, current and projected funding for ACC's Flying Hour Program does not meet the minimum resource requirements for aircrew training, as established by the RAP sortie computation process.

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<sup>1</sup> History, Air Combat Command, 1997, 95.

Without sufficient resources, aircrews cannot train effectively in their core mission areas, potentially resulting in the combat air force devolving into a hollow force incapable of executing its assigned missions at an acceptable level of risk within the timeframe required. Low levels of readiness may force the Air Force to abandon its paradigm of full-spectrum responsiveness and instead adopt a level of capability that is more affordable but less able to respond to unforeseen contingencies without a pre-deployment training period.

To counter under-resourcing, ACC must implement either a new or a more efficient training model or else a reduced state of combat readiness under RAP will have to be accepted as the new Air Force standard. This paper argues that such a reduced standard is an untenable position for the Air Force. Readiness not only enables the Air Force to “fly, fight, and win in air, space, and cyberspace”, readiness forms the foundation of every capability and asymmetric advantage espoused by Air Force doctrine.<sup>2</sup> In other words, readiness is not simply a means for the execution of national strategy; it is an essential ingredient to the identity and survival of the Air Force itself. It is therefore essential for those leading and executing the ACC RAP process to approach its challenges with creative and bold solutions to ensure that the Air Force will remain the world’s dominant air power.

### **The Strategic Environment**

Before examining the details of the RAP program and the issues affecting it, one must first understand the strategic environment that RAP addresses. ACC executes the RAP program at the tactical (flying squadrons) and operational (MAJCOM) levels. RAP’s goals, resources, and constraints, originate at the strategic level through the President, Congress, the Secretary of Defense, and the Joint Chiefs.

Written guidance is a key method for communicating U.S. defense strategy to the military. In January 5, 2012, the U.S. Secretary of Defense, Leon E. Panetta, issued updated strategic guidance for the Department of Defense (DoD) in a document titled

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<sup>2</sup> Department of the Air Force, *Fiscal Year (FY) 2014 Budget Estimates Operation and Maintenance, Air Force, Volume 1*, April 2013, 1.

*Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. More commonly referred to as the 2012 Defense Strategic Guidance or DSG, this document ties the President's national strategy to DoD priorities and missions within the projected security environment. As a "blueprint for the Joint Force in 2020", the DSG also provides guidance for service decisions on force structure, training focus, and risk assessment.<sup>3</sup>

Political and military leaders developed the updated DSG within the context of a recently ended war in Iraq, an on-going war in Afghanistan, a completed military operation in Libya, and a global counterterrorism effort against al-Qaida.<sup>4</sup> During the writing of the DSG, the U.S. Congress passed the Budget Control Act of 2011 (BCA), which mandated a \$487 billion reduction in defense spending over ten years.<sup>5</sup> Despite a number of remaining military challenges such as violent extremism, weapons proliferation, regional destabilization by Iran and North Korea, the rise of Asian powers, and political upheaval in the Middle East, Secretary Panetta shaped the new DSG to set conditions for fiscal responsibility and mission capability.<sup>6</sup>

According to Secretary Panetta, success in the future strategic environment will require the DoD "to deter aggression, to shape the security environment and to decisively prevail in any conflict."<sup>7</sup> Acknowledging that the military will have to execute these tasks in an unpredictable world, the DSG states that the U.S. military will remain capable of executing missions across the entire range of military operations (ROMO).<sup>8,9</sup> The DSG identified ten military missions in particular to serve as guides for the recalibration of Joint Force 2020 capabilities and investments.<sup>10</sup> These ten missions are: Counter Terrorism and Irregular Warfare, Deter and Defeat Aggression, Project Power Despite Anti-Access/Areal Denial (A2/AD) Challenges, Counter Weapons of Mass Destruction,

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<sup>3</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, January 2012.

<sup>4</sup> Leon E. Panetta, "Statement on Defense Strategic Guidance," *U.S. Department of Defense Press Operations*, 5 January 2012, <http://defense.gov/speeches/speech.aspx?speechid=1643>.

<sup>5</sup> *Budget Control Act of 2011*, Public Law 25, 112th Congress, 1<sup>st</sup> sess. (5 January 2011), 6, 17-18.

<sup>6</sup> Leon E. Panetta, "Statement on Defense Strategic Guidance."

<sup>7</sup> Leon E. Panetta, "Statement on Defense Strategic Guidance."

<sup>8</sup> Leon E. Panetta, "Statement on Defense Strategic Guidance."

<sup>9</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. 6.

<sup>10</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. 4.

Operate Effectively in Cyberspace and Space, Maintain a Safe, Secure, and Effective Nuclear Deterrent, Defend the Homeland and Provide Support to Civil Authorities, Provide a Stabilizing Presence, Conduct Stability and Counterinsurgency Operations, and Conduct Humanitarian, Disaster Relief, and Other Operations.<sup>11</sup>

As a result of the Budget Control Act of 2011, the execution of all of these missions will be the responsibility of a downsized military force that will be “leaner” yet more “agile, more flexible, ready to deploy quickly, innovative, and technologically advanced.”<sup>12</sup> The smaller force size will require the U.S. military to focus its physical resources only in the parts of the world in which U.S. economic and security interests are most vulnerable such as Asia and the Middle East.<sup>13</sup> The inability to be everywhere simultaneously places an important demand on U.S. military and diplomatic personnel who must strengthen existing alliances and build new partnerships to maintain access and influence where a minimal presence of forces exists.<sup>14, 15</sup>

Perhaps the requirement of the DSG that is most problematic for the downsized Joint Force is the requirement to fight and win a major combat operation (MCO) while simultaneously “denying the objectives of - or imposing unacceptable costs on – an opportunistic aggressor in a second region.”<sup>16</sup> In light of the budget reductions mandated by the Budget Control Act of 2011, the ability to accomplish this requirement was already marginal before 2013 when sequestration imposed an additional \$492 billion in mandatory cuts to defense spending over ten years. This further budget cut made execution of the multiple-conflict requirement nearly impossible, as testified by the Joint Chiefs during a House Armed Services Committee (HASC) hearing on September 18, 2013.

At the HASC hearing, the Air Force Chief of Staff, General Mark A. Welsh, warned Congress about the cumulative negative effects of sequestration and budget cuts on the Air Force Operations and Maintenance (O&M) accounts. In fiscal year 2014,

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<sup>11</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. 4-6.

<sup>12</sup> Leon E. Panetta, “Statement on Defense Strategic Guidance.”

<sup>13</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. 2.

<sup>14</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. 2-3.

<sup>15</sup> Leon E. Panetta, “Statement on Defense Strategic Guidance.”

<sup>16</sup> Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*. 4.

General Welsh stated that the severity of the cuts, coupled with a lack of authority to reapportion funds between budget accounts, creates conditions for an immediate 15% Flying Hour Program reduction, cancellation, or curtailment of major exercises, reduction of initial pilot production output, and the loss of readiness among many squadrons after three to four months.<sup>17</sup> Over the long term, General Welsh expressed the need to reduce force structure by 25,000 airmen (four percent) and 550 aircraft (nine percent) including the divestment of entire fleets of aircraft.<sup>18</sup> General Welsh emphasized that to meet DSG mission requirements, the Air Force “will prioritize global, long-range capabilities and multirole platforms required to operate in a highly contested environment”, “protect readiness to the maximum extent possible”, and “prioritize full spectrum training.”<sup>19</sup> These priorities intend to ensure a ready Air Force that can rapidly respond to any scenario across the Range of Military Operations (ROMO) with a minimum amount of risk to aircraft and personnel.<sup>20</sup>

General Welsh essentially laid out to Congress and to Air Force leaders what capabilities he expects the Air Force to train towards in order to execute the national defense strategy. From the perspective of Air Combat Command, this means that the command must ensure that its aircrews are ready to respond rapidly, across the range of military operations, at long-range and against an adversary capable of credible resistance against our air efforts. It is through execution of the RAP training model that ACC is supposed to turn strategic direction into actual capabilities that Joint Force commanders can leverage wherever and whenever needed.

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<sup>17</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 2013, 10.

<sup>18</sup> *Ibid.* House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 2013, 10.

<sup>19</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 2013, 10.

<sup>20</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 2013, 10.

## The RAP Model: Roles and Challenges

The RAP model performs two distinct, yet closely connected, roles for Air Combat Command. First, RAP is a tool for calculating and justifying training requirements. ACC calculates the flying requirements in terms of sorties; the number of sorties multiplied by average sortie time determines the number of flying hours requested in the annual defense budget. Second, once funded, RAP directs the usage of flying-hour resources by the individual combat squadrons within ACC. If the required flying-hour resources are ideally acquired, distributed, and utilized, then ACC will produce the required number of Combat Mission Ready (CMR) aircrews needed for rapid response to any contingency across the ROMO.

The ideal condition described above does not typically happen in execution. There are a number of problems at the requirements, funding, and execution levels, which result in a shortage of properly trained aircrews and ground-support personnel needed to execute the strategic vision, outlined by the 2012 DSG and CSAF. This paper broadly describes the challenges as inadequate funding, unbalanced experience, and aging equipment.

Inadequate funding refers to the funding gap between the flying hours requested and the flying hours funded. Since fiscal year 2005 (FY 05), Presidential Budget Request (PBR) Action for funding of the ACC Flying Hour Program (FHP) has been below the one hundred percent FHP Requirement and the gap between requirements and the budget continues to grow each year. In FY 13, the gap between flying hour requirements and the budget was at its largest with FHP funding at less than sixty five percent of FHP requirements due to the combined effects of Overseas Contingency Operations (OCO), DoD budget reductions mandated by the BCA, and additional budget reductions triggered by sequestration.<sup>21</sup> Even without the sequestration reductions, the FHP still would have fallen short at only 75 percent of requirements.<sup>22</sup> A key principle of the RAP program is that its sortie and flying hour calculations output the *minimum* number of flying hours required to produce the degree of combat readiness necessary to achieve the strategic,

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<sup>21</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

<sup>22</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

operational, and tactical goals communicated to each squadron through its Designed Operations Capabilities (DOC) statement.<sup>23</sup> Therefore, any funding level below the requirements derived by the RAP computational model will logically translate into a corresponding reduction in combat capability. In simple terms, there is no excess capacity in the training system that can absorb under-resourcing if all like-aircrews need the same amount of continuation training.

Inadequate experience among the aircrew and the ground support personnel further complicates both RAP planning and execution. Budgeted flying hours pay for flying operations and for the routine maintenance operations performed on the aircraft before and after each flight. Though both operators and maintainers work together to execute the RAP model, the FHP budget computation process considers the experience of only the flight crews.

An aircrew member designated “experienced” requires fewer sorties per year than an aircrew member designated “inexperienced.” In theory, ACC can reap significant financial savings if the composition of the aircrew total force is more experienced than inexperienced. Within ACC, both the F-15E and F-16 communities are reporting over 80 percent of their aircrew as experienced.<sup>24</sup> These communities became experienced by flying a greater than normal amount of hours per year in support of Overseas Contingency Operations in either Iraq or Afghanistan. At this time, Air Force instructions tie the “experienced” designation to flying hours and not on demonstrating a specified level of broad mission proficiency.<sup>25</sup>

A dual effect results from this experience-balance problem. First, by becoming “experienced” while executing a single mission-type, the aircrew will receive fewer sorties in the future, than they otherwise would have received as inexperienced aircrew, for achieving readiness across the remainder of the ROMO. Second, aircraft maintenance experience is at historically low levels, and maintainers mainly gain experience by

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<sup>23</sup> ACC/A3T, *RAP Tasking Memorandums (AS-14)*, 1 October 2013.

<sup>24</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>25</sup> Air Force Instruction 11-2B-1, Volume 1, *Flying Operations B-1 Aircrew Training*, 23 November 2011, 12.

actually doing the job of pre- and post-flight maintenance. If fewer sorties are required or funded, aircraft maintenance personnel will have fewer sorties to generate. ACC Mission Capability (MC) rate data shows a direct correlation between the level of maintainers' experience and their capability to make aircraft ready to fly.<sup>26</sup> The lower the level of experience, the lower the rate of aircraft availability. As aircraft availability decreases, so does the ability to complete scheduled airborne training and achieve a state of combat readiness. The less the aircraft fly, then the longer it takes for maintenance personnel to gain experience, causing sortie generation rates to remain low. The relationship between experience, funding, and sortie generation is a delicate balance that if not closely managed can rapidly devolve into an unrecoverable downward readiness spiral for both Operations and Maintenance.

Further exacerbating both the inadequate funding and unbalanced experience problems is the issue of aging equipment. The average age of the Air Force's combat aircraft fleet is at a historic high at the same time the size of the combat aircraft fleet is at a historic low.<sup>27</sup> To support flying requirements, ACC squadrons must fly the smaller fleet more often effectively causing the fleet to age even faster. As aircraft age increases, their parts are more prone to failure, they require additional maintenance time, and the cost per flight hour increases. As a result, training opportunities decline, sortie generation becomes more difficult, and budget programmer must diverted funds from flying hour accounts to Weapons System Sustainment accounts. The only two ways out of this problem cycle are to modernize the fleet or fly it less. Modernization of the fleet is the preferred solution, but such a course of action under current budget restrictions presents what General Welsh called "a ready force today versus modern force tomorrow dilemma."<sup>28</sup> Under current constraints, if the Air Force fully funds recapitalization of the fleet, readiness will suffer. Conversely, if the Air Force funds full readiness, insufficient funds will remain to recapitalize.

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<sup>26</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>27</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>28</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 34.

It is clear that the Air Force must begin recapitalizing its fleet, but how will it do so while retaining full-spectrum readiness? Can the RAP program provide full-spectrum readiness despite the challenges of inadequate funding, unbalanced experience, and aging equipment? Is the Air Force paradigm of full-spectrum readiness for all of its forces even realistic today, or must the Air Force adopt a more tailored readiness model that incurs more risk while being more affordable? The Air Force must resolve these questions to retain any reasonable chance of success in future combat operations.

## **Methodology**

Utilizing unclassified Air Force regulations, presentations, and memorandums, Chapter 1 will explain the history and rationale behind the Air Combat Command (ACC) Ready Aircrew Program (RAP) and how it is structured, funded, and executed. Though generally understood by airmen as a squadron-level program, the output of RAP, aircrew readiness, is an essential “means” that provides options at the tactical, operational and strategic levels of war planning.

After first explaining the mechanics of the RAP program, the author will use ACC briefing slides, public statements, and articles to assess the RAP’s ability to produce combat-ready aircrews in today’s reduced-resource environment. Lastly, chapter 1 will cover RAP’s role in ACC’s calculation of its annual FHP budget request.

Chapter 2 focuses on alternate training models to the ACC RAP model. First, this paper will look at the benefits and deficiencies of the tiered-readiness model planned for use by the US Army in 2015. This paper will then present a specialized-readiness model that builds on the established Air Force concept of Unit Type Code (UTC) packaging. Both the Tiered-Readiness Program (TRP) and the Specialized-Readiness Program (SRP) are budget-driven training models that prioritize a rapid contingency response capability, of limited scale, over the slow deployment of a large-scale force for the execution of a major conventional war.

In Chapter 3, this paper will utilize the Joint Publication 5-0, *Joint Operation Planning* course of action (COA) comparison process to assess the continued viability of a RAP program operating in a resource environment constrained by the BCA and its

sequestration provisions through 2021. The non-weighted numerical comparison will also assess the ability of a tiered-readiness model or a specialized-readiness model to provide combat-ready aircrews for the defense strategy contained in the 2012 DSG and the 2014 QDR.

This paper will conclude with a summary of findings from the training-model comparison process. Additionally, the concluding chapter will present some implications for ACC and the national defense strategy if RAP remains insufficiently resourced or if ACC fails to adapt to the new fiscal realities of the coming decade. Lastly, the concluding chapter will provide some recommendations that ACC can immediately implement to protect the combat capabilities of America's Air Force.



## Chapter 1

### Understanding the Ready Aircrew Program (RAP)

*We plan to protect readiness to the maximum extent possible. We also plan to prioritize full spectrum training, because if we're not ready for all possible scenarios, we'll be forced to accept what I believe is unnecessary risk, which means we may not get there in time, it may take the joint team longer to win, and our people will be placed at greater risk.*

– General Mark A. Welsh III, Air Force Chief of Staff

Air Combat Command created the Ready Aircrew Program (RAP) to produce combat-mission-ready (CMR) aircrews capable of accomplishing their unit-assigned missions.<sup>1</sup> On its surface, the RAP model appears simple. As long as ACC aircrew, training under RAP, fly their required number of sorties per month, maintain their weapons delivery qualifications, and retain their air and ground currencies, then they are designated CMR. Several issues, most notably under-funding and over-tasking, can quickly unravel the smooth conduct of the RAP process and make the production of CMR aircrews difficult.

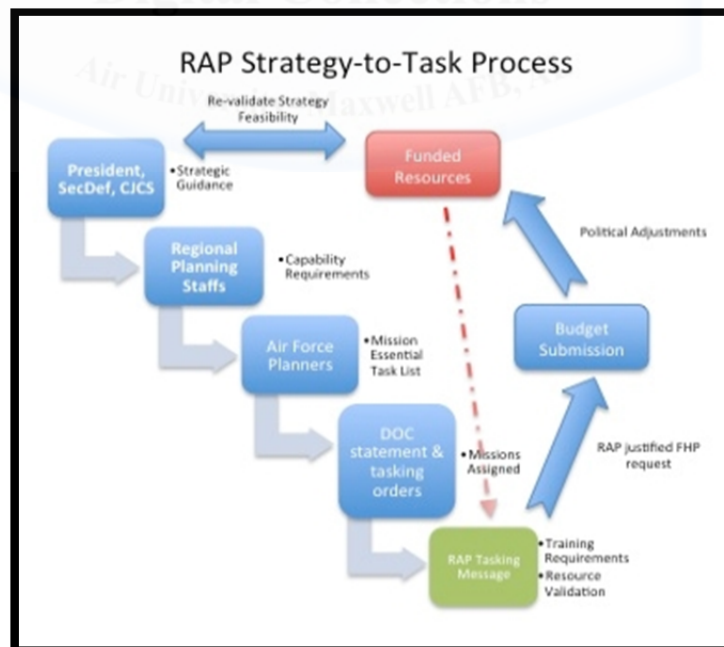
The main goals of this chapter are to explain to the reader how the RAP model should function and to present the obstacles that currently block RAP from functioning optimally. This chapter will achieve these goals by first exploring the linkage of defense strategy requirements to RAP's tactical training requirements. Then, this chapter will provide the reader a primer on the basic components and operation of RAP through the backdrop of a notional bomb squadron. After showing how RAP works on paper, this chapter will evaluate RAP's real-world effectiveness at producing combat-ready aircrews. Finally, this chapter will discuss RAP's key role in the formulation of the ACC Flying Hour Program.

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<sup>1</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9.

## Ready Aircrew Program: Strategy-to-Task

The Ready Aircrew Program is the framework through which ACC converts Air Force Policy Directives (AFPDs) and Air Force Instructions (AFIs) into an executable process for resourcing, training, and evaluating CMR aircrews. In an analytical process known as strategy-to-task, strategic guidance communicated, directly or indirectly, by national leadership such as the President, the Secretary of Defense or the Chairman of the Joint Chiefs of Staff (CJCS) initiates the formulation of RAP training objectives. Regionally assigned military planning staffs then identify the military capabilities needed to accomplish the strategic goals relevant to their areas of responsibility (AOR).<sup>2</sup> Air Force planners translate regionally identified air, space, and cyberspace requirements into mission-essential tasks. These tasks specify the employment of airpower assets to achieve the desired battlefield effects. The Air Force then assigns the tasks to the appropriate combat squadrons through Designed Operational Capabilities (DOC) statements or unit-tasking orders.



**Figure 1: RAP Strategy-to-Task Process**

*Source: Author's Original Work*

<sup>2</sup> Air Force Policy Directive 10-2. *Operations Readiness*, 6 November 2012, 1.

The DOC statements and specific unit-tasking orders provide the basis for HAF and ACC resource distributions, training programs, and readiness reports. Both DOC statements and unit-tasking orders tell a combat squadron what missions it must be prepared to execute. The DOC statement's focus is on steady-state readiness and prebuilt operational plans (OPLANs), while unit-tasking orders are concerned with preparations for a particular mission at a defined time and place.

In parallel to the DOC statement and unit-tasking orders, ACC annually releases a RAP Tasking Message (RTM) for each major weapons system (MWS) under its Operational Control (OPCON). The RTM "defines the *minimum* required mix of annual sorties, simulator missions, and training events aircrew must accomplish to sustain combat mission readiness" and "meet DOC tasked requirements."<sup>3</sup> In simpler terms, the RTM explains *what* aircrews will do to meet the readiness level specified in both the DOC statement and unit tasking.

Not all DOC statement missions carry equal importance or likelihood of execution. To assist in proper resource utilization, the RTM prioritizes the mission types that aircrew will train to execute. For instance, the B-1 RTM specifies that B-1 aircrew will primarily train to execute Strategic Attack (SA), Air Interdiction (AI), Offensive Counter Air-Attack Operations (OCS-AO), and Close Air Support missions (CAS).<sup>4</sup> If resources remain after training for their primary missions, then B-1 aircrews will train to execute their secondary missions of Counter Fast Attack Craft/Fast Inshore Attack Craft (Counter FAC/FIAC (CCF)) and Airborne Maritime Mine laying.<sup>5</sup>

Once a combat squadron knows what missions it has to prepare for, it is up to the squadron's training and tactics officers to generate local tactical training plans and validate the sufficiency of the resource levels (e.g. flying hours, training weapons, ranges, etc.) provided by Air Combat Command. In other words, while the RTM specifies *what* aircrews will do to meet readiness requirements, the local training program specifies *how* aircrews will train. A squadron's weapons, training and scheduling officers develop local

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<sup>3</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 1-2.

<sup>4</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 13.

<sup>5</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 13.

mission profiles, coordinate training resource usage, and track individuals' training progress. The localized-training-plan approach allows the Air Force's three B-1 combat squadrons, under the general guidance of RAP, to develop customized training programs that optimize access to resources such as training ranges, adversary air support, tankers, and training weapons. Because the three squadrons are on different deployment schedules, they will also vary their training focus to meet pre-deployment requirements.

After the yearlong RAP cycle begins on October 1, the squadrons report their combat readiness to ACC on a monthly, quarterly, and annual basis. ACC uses these reports to gain an awareness of aircrew readiness in terms of CMR levels, resource shortfalls, and external intervening variables (LIMFACS). In theory, properly resourced aircrews will meet all of their RAP requirements and will be ready to respond to any short-notice mission tasking across the Range of Military Operations (ROMO).

One of the most interesting elements of the RAP program is its role in calculating and justifying resource requirements. RAP requirements initially derive from strategic requirements. The determined RAP requirements (i.e. the minimum number of sorties and flying hours the squadron needs) then drive ACC's Air Force Flying Hour Model (AFFHM) computations and the resultant budget requests. RAP's specification of training requirements in terms of *minimums* causes some friction in the budget process because if *any* cuts or delays to the requested budget occur during political review by the Legislative or Executive branches of government, Air Force units will begin the fiscal year already short of minimum requirements. In other words, RAP trained crews are starting in a precarious position from which, by definition, budget cuts will ensure they will be unable to meet all of their CMR requirements. If they are unable to meet all of their RAP requirements, which are a *minimum*, then Air Force crews cannot achieve the degree of operational readiness determined necessary through the strategy-to-task process.

This minimalist logic of the RAP model is a critical weakness that must be addressed; otherwise one can easily be trapped into chasing shortfall metrics that highlight deficiencies instead of indicating actual capabilities. RAP is tool for translating strategic goals into actual capabilities. Overall, RAP is a straightforward model to

execute when properly resourced. However, when funding is less than requested, it is extremely difficult for commanders to provide airpower capabilities dependent on a *minimum* level of financial support. In this case, the minimum becomes the maximum we will ever achieve.

### The Components of RAP

ACC currently oversees the training and readiness of seven combat aircraft including six fighter types and one bomber type. Despite some differences in their sortie counts, the training, reporting, and budgeting processes used by each Major Weapons System (MWS) are consistent throughout ACC. As previously stated, the goal of this chapter is not to critique or recommend a specific mix of flights, simulators, and ground training events, but rather is to produce an understanding of the process of executing RAP and how the output of that process, combat readiness, impacts the national defense strategy.

To help illustrate RAP’s operating concepts, this paper will utilize a notional B-1B squadron, the 23rd Bomb Squadron (23BS), in multiple discussions throughout this chapter. The 23BS is composed of ten B-1B aircraft. The 23BS DOC statement requires the 23BS to maintain a crew ratio of 1.5 crews per aircraft, which means the squadron’s goal is to keep fifteen crews fully trained and in CMR status. Seven experienced and eight inexperienced aircrews compose the fifteen 23BS aircrews on the unit-manning document (UMD) as depicted in Table 1.

**Table 1: Composition of the Notional 23BS**

23BS AIRCREW COMPOSITION				
	CMR		BMC	
	EXP	INEXP	EXP	INEXP
10 B-1B Aircraft				
1.5 Crew Ratio	7	8	2	0
	15 CMR CREWS		2 BMC CREWS	

*Source: Author’s Original Work*

In addition to the fifteen crews assigned to the 23BS, there are two attached crews composed of aircrew assigned to various organizations throughout the Bomb Wing. All of the attached crewmembers are Basic Mission Capable (BMC)-Experienced. Though

the readiness of the two attached crews is not a central element of squadron readiness assessments, the 23BS is responsible for training those crews and including those crews on the annual flying-hour budget request. The attached crews provide a valuable reserve manpower pool that can rapidly be elevated to CMR status if needed.

It is important to explain a few concepts within the RAP model before proceeding with an application of RAP to the 23BS. The differentiation between “experienced” and “inexperienced” aircrew is a very important one that drives the rate of flying required of an aircrew. An inexperienced crewmember is generally required to complete more simulator and aircraft missions per RAP year than an experienced crewmember. The requirements to become experienced are detailed in the appropriate AFI 11-2MDS, Volume 1 instruction but generally, for any pilot or WSO to become experienced, the crewmember must accumulate a minimum number of flight hours *and* be designated experienced by the Squadron Commander.<sup>6</sup> In theory, experienced aircrews are beneficial to the squadron because such aircrew require fewer sorties per month, which should allow flying hours to be diverted to inexperienced aircrews that need more flight time to gain experience. In practice, whether flight hours actually free up as squadron crewmembers become experienced depends on multiple factors that this chapter will cover in the section on obstacles to RAP execution.

The next terms requiring explanation are Basic Mission Capable (BMC) and Combat Mission Ready (CMR). Before becoming either BMC or CMR, aircrew must complete multiple stages of training. After graduating undergraduate pilot or navigator training and earning their Air Force wings, the new pilots and WSOs proceed to Initial Qualification Training (IQC) in their assigned aircraft type. IQC graduates receive a qualification “in a basic position and flying duties without regard to the unit’s mission” and assume Basic Aircraft Qualification (BAQ) status.<sup>7</sup> The BAQ-designated pilots or WSOs then proceed to their assigned combat squadrons where they will enter Mission Qualification Training (MQT). The squadron training office (DOT) administers MQT, a

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<sup>6</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 11-12.

<sup>7</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 8.

program that certifies crewmembers to perform “flight duties that directly support a unit’s mission.”<sup>8</sup> After completing MQT, the squadron commander designates crewmembers either CMR or BMC as appropriate to their squadron position.

CMR is a status of readiness indicating that crewmembers are accomplishing the minimum amount of flying, simulator, and ground training specified in the RAP Tasking Message (RTM) to be “certified, current, and proficient in all of the primary DOC mission requirements of their assigned or attached unit.”<sup>9</sup> A squadron composed of all CMR crewmembers should be capable of responding to any tasking across the ROMO with little notice.

BMC is a status of readiness indicating that the crewmembers are accomplishing the minimum amount of flying, simulator, and ground training specified in the RTM to be “familiar with all, and may be certified and proficient in some, of the primary DOC mission requirements for their assigned or attached unit.”<sup>10</sup> BMC crewmembers may require additional training time before responding to a contingency tasking.

The two key terms embedded in the CMR and BMC definitions are “proficient” and “familiar”. The RTMs of each ACC combat aircraft define these terms. A “proficient” crewmember is a person possessing thorough mission knowledge and prepared to operate, on the first sortie, in the fluid and complex environments expected in most contingency situations.<sup>11</sup> In contrast, a “familiar” crewmember possesses only basic mission knowledge and sufficient skills for operating in a permissive (minimal air defenses, if any) environment typical of low-risk contingencies.<sup>12</sup> The definition of “familiar” advises that additional training may be required before “familiar” crewmembers can fly their first mission.<sup>13</sup> The AFI-11-2MDS, Volume 1, specifies that crewmembers

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<sup>8</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9.

<sup>9</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9.

<sup>10</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9.

<sup>11</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 14.

<sup>12</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 14.

<sup>13</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 14.

“familiar” in a mission must be able to attain proficiency in that mission in 30 days or less.<sup>14</sup>

Neither the RTM nor the AFI 11-2MDS, Volume 1 specify how the “familiar” crewmember will become “proficient” in that 30 day period. There are no sortie, simulator, or academic-training requirements dictated. Consistent with the overall logic of RAP, the squadron decides the training mix. Additionally, there is no documented process requiring ACC to distribute additional training resources (flight hours) to squadrons making “familiar” individuals “proficient.” Because the RAP budgeting model bases its flying-hour request on *minimum* RAP training requirements, there are no programmed sortie reserves. If, during RAP cycle execution, additional sorties are required over the amount budgeted, these sorties must come “out-of-hide”. For instance, if a familiar crewmember requires two additional sorties to become proficient, those two sorties come from another squadron-member’s allocation. This author understands that in a crisis scenario, ACC will find the resources needed to fly the needed sorties. The point is that in such a scenario, there is no AFI-driven training or resourcing process geared to converting “familiar” crewmembers into “proficient” crewmembers.

**Table 2: B-1B Crewmember Annual Sortie and Simulator Requirements**

CYCLE	CMR SORTIES	CMR WST <sub>s</sub>	BMC SORTIES	BMC WST <sub>s</sub>	NOTES
	INEXP/EXP	INEXP/EXP	INEXP/EXP	INEXP/EXP	
12 Month	48/40	24/20	24/24	12/12	
3-Month Lookback	12/9	6/5	6/6	3/3	
1-Month Lookback	4/3	2/1	2/2	1/1	1
<b>Total RAP Missions (INEXP/EXP)</b>	<b>72/60</b>		<b>36/36</b>		
Notes:					
1. In addition to aircraft sorties, WST missions are required to make 1-month lookback. Regression rules in AFI 11-2B-1 Vol 1, para 4.6 apply when either live fly sorties or WST missions are not met. TDY for ten O&M days or more relieves the WST requirement for that month. Squadrons should utilize DMO capabilities in the WST to the max extent possible					

Source: B-1B RAP Tasking Memorandum (AS-14)

CMR crewmembers are typically the flying personnel assigned to the combat squadron’s UMD.<sup>15</sup> Some non-squadron personnel may be also designated CMR by the

<sup>14</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9.

<sup>15</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9.

Operations Group Commander.<sup>16</sup> BMC crewmembers are normally assigned to support squadrons for their primary job but are attached to the combat squadron for flying purposes.<sup>17</sup> CMR and BMC crewmembers have different training requirements to maintain their readiness status. For example, Table 2 shows the annual flying and simulator requirements for a B-1B crewmember. From Table 2, one can see that a CMR-Experienced crewmember requires a *minimum* of three sorties per month, nine sorties per quarter, and forty sorties per year to remain CMR. A BMC-Experienced crewmember requires a minimum of two sorties per month, six sorties per quarter, and twenty-four sorties per year to remain BMC.

Though CMR and BMC crewmembers have different proficiency and familiarity requirements, there is no restriction on flying together on the same missions. If CMR and BMC crewmembers train in the same mission scenarios but just fly at different rates, the logical conclusion is that sortie count, not sortie content, is the determining factor of proficiency in the RAP model. ACC must address this weakness in RAP's logic to improve resource management and protect the integrity of the CMR and BMC designations.

Now that experienced versus inexperienced, CMR versus BMC, and "proficient" versus "familiar" are understood concepts, we can proceed with the practical example of how RAP works to produce combat-ready crewmembers. Tracing the strategy-to-task process, this example will show how the 23BS receives its mission requirements and converts those requirements, in close coordination with ACC, into an executable plan, the RTM. Then, this example will show how crewmembers follow the RTM to achieve combat readiness. Lastly, the example will show how the various components of aircrew experience, mission-readiness status, and manning levels converge to produce the 23BS flying-hour budget request.

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<sup>16</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 7, 9.

<sup>17</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 9-10.

## RAP in Practice

The RAP training cycle is twelve months long and aligns to the US government's fiscal year, which runs October through September. The 23<sup>rd</sup> Bomb Squadron would typically receive its RTM in July or August to give the squadron sufficient time to make changes to training plans before the new RTM takes effect on October 1<sup>st</sup>. Once the new RTM takes effect, the required training events remaining for each 23BS crewmember reset, and event tracking begins for the remainder of the RAP year. Unlike the event counters, each crewmember's readiness status will carry over from the previous month's training. Table 2 above shows the monthly, quarterly, and annual RTM sortie and simulator requirements for CMR and BMC B-1B crewmembers. The RAP requirements further subdivide into experienced or inexperienced within the CMR and BMC categories. When applied to the 23BS, the Table 2 requirements result in the total monthly, quarterly, and annual requirements indicated in Table 3 below. With the sortie requirements calculated, 23BS scheduling, training, and weapons officers develop plans to fly all the sorties and thereby ensure each crewmember attains CMR or BMC status.

From Table 3, one can see that in order to keep all fifteen 23BS B-1B crews CMR, the squadron must fly a *minimum* of forty-five B-1B training sorties per month. Additionally, the 23BS must fly a minimum of four additional sorties per month to keep the attached crewmembers BMC. It is important to note, that in actual execution, experienced and inexperienced crewmembers inter-mix on each sortie, therefore it is nearly impossible to fly just forty-nine sorties and have all crewmembers in the squadron meet their requirements. A B-1B Aircraft Commander for instance, is typically

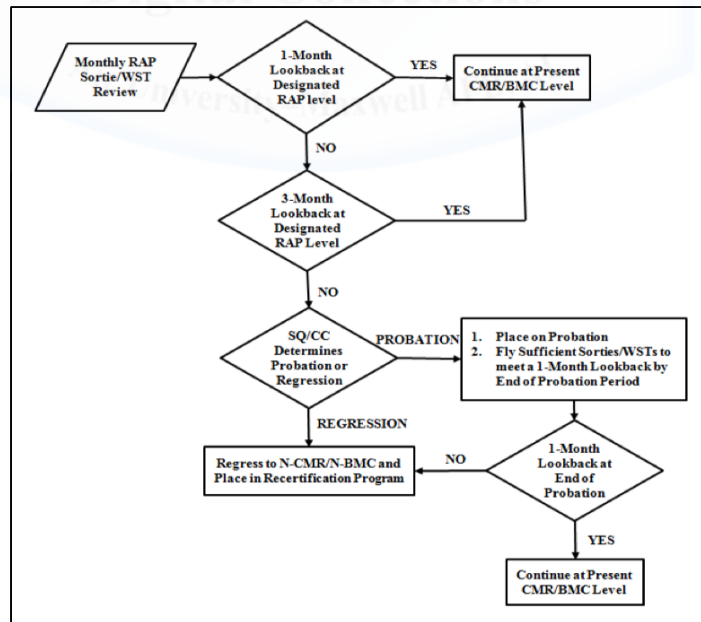
**Table 3: 23BS Notional AS-14 RAP Requirements**

	23BS AIRCREW COMPOSITION				TOTALS
	CMR		BMC		
	EXP	INEXP	EXP	INEXP	
10 B-1B Aircraft 1.5 Crew Ratio	7	8	2	0	
Total sorties/mo	21	24	4	0	49
Total sortie/qtr	63	96	12	0	171
Total sorties/yr	280	384	24	0	688
Total sims/mo	7	16	2	0	25
Total sims/qtr	35	48	6	0	89
Total sims/yr	140	192	24	0	356

*Source: The Author's Original Work*

designated experienced while the Co-Pilot is typically inexperienced. The same intermixing is true in the WSO stations of the B-1B or within ACC fighter formations typically composed of experienced flight and element leads and inexperienced wingmen. The key take-away is that the differing requirements between experienced and inexperienced crewmembers create challenges in scheduling. Event scheduling is one of the sources of friction in RAP execution that contributes to sub-optimal combat readiness rates within ACC squadrons.

At the end of each flying month, 23BS training personnel apply AFI 11-2B-1, Volume 1 regression and currency rules to each crewmember to determine whether they qualify to remain in CMR or BMC status. The RAP regression flow is composed of three steps. Per the first step shown in figure 2, DOT evaluates the crewmember's one-month Lookback at the designated level. If the crewmember flew the *minimum* number of RAP-required sorties (and simulators for some aircraft) during the month, then the crewmember remains CMR/BMC.<sup>18</sup> If the crewmember accomplished less than the *minimum* monthly RAP requirements, DOT evaluates the crewmember at the second step



**Figure 2: RAP Regression Flow Chart.**

*Source: AFI 11-2B-1, Volume 1*

<sup>18</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 41-42

of the RAP regression flow. In the second step shown in figure 2, DOT reviews the crewmember's 3-month Lookback to determine whether the crewmember completed the *minimum* number of RAP required sorties (and simulators for some aircraft) during the preceding three-months.<sup>19</sup> Despite failing to complete their single month requirement, crewmembers can remain CMR/BMC if they met the *minimum* training requirements spread over a three-month period. If the crewmember did not meet the three-month training *minimums*, then the squadron commander determines whether to place the crewmember into "probation" or "regression" status per the third step down in figure 2.<sup>20</sup>

If placed on probation, the crewmember will remain CMR/BMC but he or she must fly the minimum one-month sortie and simulator requirements to continue at CMR/BMC the following month.<sup>21</sup> If the crewmember fails to meet the one-month Lookback while on probation, then the crewmember is regressed and no longer designated CMR/BMC.<sup>22</sup> To become CMR/BMC again, the crewmember must complete a commander-directed recertification program per the fourth step shown in figure 2.<sup>23</sup>

In parallel to the regression-flow analysis, squadron training officers also verify that all of the crewmembers are current in specific flight events that are designated by the AFI 11-2MDS, Volume 1 as affecting CMR/BMC status. For the members of the 23BS, Table 4.1 in AFI 11-2B-1, Volume 1 identifies seven flight currencies that affect CMR/BMC status.<sup>24</sup> For example, if B-1B pilots are not current in takeoff, they will be designated non-CMR (N-CMR) even if they met their 1-month and 3-month Lookback

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<sup>19</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 41-42.

<sup>20</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 41-42.

<sup>21</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 41-42.

<sup>22</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 41-42.

<sup>23</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 41-42.

<sup>24</sup> Air Force Instruction 11-2B-1, Volume 1. *Flying Operations B-1 Aircrew Training*, 23 November 2011, 36.

criteria. Reinstatement of CMR/BMC status occurs after the non-current crewmember flies the event with an instructor.

The squadron is able to report its combat-readiness level after validation of all the crewmember's CMR/BMC statuses. Squadrons normally report their status monthly through three different databases: Global Status of Resources and Training System (GSORTS), Defense Readiness Reporting System (DRRS), and Air and Expeditionary Force (AEF) Unit Type Code Reporting Tool (ART). The consolidated readiness data is classified information that concerns capabilities and potential weaknesses of specific units against specific missions or threats. Therefore, this paper will not provide specific report examples but will explain their general purposes.

The GSORTS reporting system uses unit resource-levels to assess the combat units' abilities to execute the assigned missions.<sup>25</sup> For instance, if a given unit has only seventy-five percent of its required personnel, the unit enters a degraded capability condition into GSORTS. The DRRS reporting system requires unit commanders to report their capabilities and deficiencies versus their tasked missions.<sup>26</sup> Unlike in GSORTS, a resource deficiency does not necessarily translate into a capability deficiency in DRRS. Even through a unit may have seventy-five percent of its manning, it may still be capable of executing some of its tasked mission types while incapable of executing others. Both GSORTS and DRRS serve as central sources of DoD readiness data for the Secretary of Defense and Congress.<sup>27</sup>

ART on the other hand, is an Air Force-specific system that requires commanders to report the readiness of individual squadron members vulnerable to deploy in specific packages referred to by Unit Type Codes (UTCs).<sup>28</sup> Unlike other services, the Air Force does not simply deploy entire units but instead deploys a portion of a unit, or multiple units, as a single capability-focused UTC.<sup>29</sup> For example, if a contingency requires an

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<sup>25</sup> Air Force Policy Directive 10-2, *Operations Readiness*, 6 November 2012, 3.

<sup>26</sup> Air Force Policy Directive 10-2, *Operations Readiness*, 6 November 2012, 3.

<sup>27</sup> Air Force Policy Directive 10-2, *Operations Readiness*, 6 November 2012, 3.

<sup>28</sup> Air Force Policy Directive 10-2, *Operations Readiness*, 6 November 2012, 3.

<sup>29</sup> Air Force Policy Directive 10-2, *Operations Readiness*, 6 November 2012, 3.

operational intelligence cell, the intelligence personnel that will staff that intelligence cell will arrive from multiple geographically separated units as a UTC package.

It is important to possess a basic understanding of these reporting tools because they serve as a key means for closing the strategy-to-task loop from the tactical squadron back to the strategic decision makers. Through these reports, commanders are required to assess their squadron's ability to accomplish their DOC-assigned Mission Essential Tasks which "link aircrew training to tasks required to support war fighting CINCs."<sup>30</sup> In other words, it is not sufficient for ACC squadrons to assess themselves relative to the quantity of RAP accomplished. Commanders must also evaluate whether the RAP model itself directs the training needed to support national strategic objectives as conveyed to the military through the DSG.

### **RAP Effectiveness**

A vital function of Air Combat Command is to identify and solve shortfalls or LIMFACs that inhibit its combat squadrons from achieving required readiness levels. In addition to the GSORTS, DRRS, and ART reporting databases, ACC directly monitors RAP execution and resourcing to determine the combat readiness of its squadrons. Presently, ACC is unable to train all of its combat aircrews at a CMR level under RAP, and the ability of the CAF "to quickly deploy COMBAT-READY forces to meet combatant commander requirements is in jeopardy."<sup>31</sup> Because RAP directs the minimum training requirements for CMR, an environment of resourcing RAP below minimum requirements makes execution of the RAP program impossible by RAP's own definition. As of fiscal year 2014 (FY14), ACC-budgeted flight hours are at 75 percent of the requirements established by RAP.<sup>32</sup> At the same time, GSORTS ratings have decreased since December of 2012.<sup>33</sup>

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<sup>30</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 4.

<sup>31</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>32</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

<sup>33</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

On a monthly basis, combat squadrons report their RAP health to ACC in terms of how many crews are CMR. After performing the month-end regression-flow analysis and CMR-affecting currency check described above, the squadron training personnel determine how many crews remain CMR. In our notional 23BS, each B-1 crew requires two CMR pilots and two CMR WSOs. If even one pilot or WSO becomes N-CMR, the entire crew may become N-CMR in some capability reports. This is because a single B-1B is only combat-capable if each of its four crewmembers is CMR. The specific mix of co-pilots (CP) and aircraft commanders (AC) in a squadron can complicate the math a little because two ACs can fly together but two CPs cannot. Therefore, if there is a higher percentage of ACs than CPs in a squadron then it is possible for a single N-CMR co-pilot to not degrade the whole crew because CPs are replaceable by either an AC or another CP. The same logic applies to fighter flight leads and wingmen. Two flight leads can fly in formation together but two wingmen cannot.

Each squadron's DOC statement specifies how many CMR aircrew that squadron must ready for combat. In the case of the notional 23BS, the squadron is responsible for producing fifteen CMR crews per month. Even though the two BMC crews are attached to the 23BS for flying, they are not a primary determinant in the squadron's readiness assessment. If in a given month four WSOs and five co-pilots were designated N-CMR, then potentially up to five crews could be N-CMR. In such a scenario, only 10 of 15 B-1B crews would be CMR and the 23BS would report a degraded sixty-six percent readiness rate. Assuming all ten B-1Bs were mission capable, the best crew-to-jet ratio the squadron could deploy on short notice is 1:1. This equates to ten crews for ten jets, when normally the 23BS DOC requires a ratio of 1.5:1. This directly affects combat capability because the aircraft cannot fly as many times as planned due to the physical rest requirements of each crew between missions. If a contingency did not require all ten B-1Bs, then potentially the squadron is completely capable of executing its tasked mission with only ten CMR crews available.

These two brief scenarios illustrate a resource-approach analysis (GSORTS) and a capabilities approach analysis (DRSS), respectively. The key takeaway is that analyzing readiness solely as a function of resourcing relative to a static full-deployment scenario

can be a misleading venture. Analysis can be more dynamic through a two-tier readiness assessment that assesses readiness against both the most-dangerous, and the most-likely mission employment scenarios.

In the summer and fall of 2013, the ACC Training Office, ACC/A3TO, built two briefings identifying the primary sources of degraded readiness within the Combat Air Forces (CAF). The first briefing examined the current health and readiness of the Global Precision Attack and Air Superiority missions through the lens of the RAP model.<sup>34</sup> The second briefing discussed the impact of Sequestration on the entire CAF enterprise.<sup>35</sup> Despite their differing approaches, a lack of funding was the consistent thread present within all of the sources of degraded readiness.

ACC's analysis considers a decrease in the number of sorties flown compounded with a decrease in the number of home-station flight hours flown as the two leading indicators of degraded combat readiness.<sup>36</sup> Additionally, ACC points to other factors such as imbalanced aircrew experience reduced air-to-ground training-range access, high deployment rates, low manning levels, and shrinking aircraft-fleet size as reasons why ACC combat readiness is declining.<sup>37</sup> While ACC's reports present a bleak world of declining resources, they do not show a direct assessment of capability. It is presumed in ACC's reports that RAP's requirements must be right, therefore, if resources are below the minimums set by RAP, then, by extension, capabilities must be poor. In the end, capabilities may be in decline, but ACC's reporting methodology does not prove it. Instead, the reports at ACC show exactly what ACC already knew the moment Congress funded RAP below 100 percent: If RAP funding is less than 100 percent, ACC cannot meet requirements. A circular logic quickly develops if this data becomes the basis of an argument that, because ACC cannot meet RAP requirements, then Congress must restore

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<sup>34</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>35</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

<sup>36</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>37</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

funding back to 100 percent. This circular logic quickly masks what is most important to report – how *capable* ACC units are if a war happens tomorrow not how capable ACC units could be if funded.

By themselves, the number of sorties and hours flown do not have much value beyond providing a quantitative comparison of past and present activities. It is easy to show on a chart that a pilot flew one hundred sorties last year and only eighty sorties this year, but one cannot conclude from such data that the pilot is any less combat-capable. If this year's sorties had more weapons releases, better adversary air support, and more realistic scenarios than the previous year's sorties, would the lower sortie count matter? This level of quantitative analysis is appropriate if one is trying to highlight reductions in resource levels and if one accepts the assumption that more equals better.

The Air Force is capable of providing significant airpower despite the flying-hour program reductions. ACC needs a layer of analysis beyond quantity comparison to help determine combat capability. When sorties and hours are analyzed together, some inferences can be made about the quality of the training and combat missions being flown. By comparing the number of sorties to the total hours, one can determine whether the average sortie duration (ASD) is increasing. The most intensive portions of training and combat missions require more maneuvering and hence more fuel consumption. On the opposite side, less intensive operations such as high altitude cruise, or max endurance orbiting (as is common in current CAS operations), have lower fuel consumption and thus higher ASDs.

ACC has specifically identified a trend in which deployed crews are flying a relatively constant number of sorties relative to previous years, but flying more hours. Aircrews accumulate hours faster, relative to the number of sorties they fly, than they do with home station sorties.<sup>38</sup> As a result, aircrews are meeting the previously discussed regulatory requirements for experience faster than in the past. This expedited gain in experience has two implications. First, the aircrews are not getting their hours through exposure to the wide variety of missions they could execute within the ROMO. As a

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<sup>38</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

result, they become experts in one mission while neglecting the others. The crewmembers are less able to perform the other missions even though they are experienced. One of the indicators this is a real problem is a 100 percent increase in the USAF Weapons School mission failure rate over the last 5 years.<sup>39</sup> The USAF Weapons School syllabus tests its students in the employment of airpower in every Air Force mission, so a student's lack of broad mission exposure in previous years will become readily apparent. The second implication of "experience" is that once aircrew members become experienced, their required annual sortie rate decreases. If aircrew members cannot grasp the other missions within their lowered RAP allocation, they will have development problems. Since the RAP-driven budget relies on minimums, there will not be extra sorties readily available for remedial training.

The problem of air-to-ground training-range access is both a quantity and quality of training problem. From FY05 through FY10, ACC range funding decreased by 50 percent.<sup>40</sup> The immediate effects of this funding reduction are a 25 percent reduction in operating hours and fewer training targets.<sup>41</sup> With fewer range opportunities, the quality of the sorties actually flown is impacted. While aircrews do have the ability to perform simulated bomb runs, both in the aircraft and in the simulator, there is no substitute for actual weapons usage in training. Besides the aircrew's additional psychological stress caused by the release of real ordnance, the use of actual weapons in training places needed stress on the entire mission-generation logistics train. While weapons build and load crews can practice their skills on dummy jets or unscheduled airplanes, real-world operations induce a different level of stress and accountability when the weapons must be built for a specific mission and must be ready at a specific time. If aircraft maintenance does not perform its jet preparations on time, the weapons loaders cannot get the ordnance on the jets, thus placing stress on the maintenance chain. The bottom line is if

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<sup>39</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>40</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>41</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

the CAF expects to successfully employ airpower, the entire sortie-generation process from the ground activities through weapons release must be correct. The Air Force must train how it fights, and readily accessible ranges are a key element in the training chain.

High deployment rates, shrinking aircraft fleets, and reduced manning levels are interconnected problems. All of these problems point to the issue of capacity both in training and in combat. The more one deploys to a specific location or conflict, the less the deploying element is available to train to other potential tasks. The smaller the fleet size, the more often the same jets have to deploy, which further exacerbates the problem of not being able to train to other potential tasks because the equipment is not available at home to train with. The additional problem of a small fleet size is that the fewer jets there are to fly, the more each jet has to fly to meet training or combat sortie requirements. The more a jet flies, the faster it ages. The faster a jet ages, the more maintenance the jet requires, which reduces how much it can fly. Once the jet starts flying less, it becomes more difficult to meet training and combat requirements at previous rates. It is not difficult to see how rapidly such a depreciating spiral can get out of control, causing readiness to suffer.

The last issue of reduced manning levels produces a paradox of GSORTS because in theory, lower manning should be desirable within a RAP construct. With fewer pilots to fly, the FHP budget would be sufficient to cover the number of sorties needed by the smaller force. However, the lower one's manning, the more additional duties the personnel left behind must absorb leaving them less available to actually fly. In addition to this manning paradox, the FHP is not a fixed pot of money that the Air Force can distribute as it sees fit for training. If pilots are lost, so too is the money that was previously attached to them. In effect, it is extremely difficult to become smaller and more effective when budgets are variable, not fixed.

Of note, the ACC readiness briefing does not explicitly examine whether the current standards of readiness were properly calibrated to the recently changed objectives in the 2012 DSG. One slide states that the RAP requirements had been

“validated over time” and “tailored” per Readiness Project 1.<sup>42</sup> If RAP is truly a tactical component of a strategy-to-task process, it stands to reason that *time* itself is not a validating factor. If anything, the longer a process continues, the more likely it is to become part of the “structures, rules, behaviors, beliefs, and the patterns of culture that define an organization.”<sup>43</sup> If ACC leaders view RAP as a time-honored element of their identity, any attempts to change it may “mobilize all kinds of opposition as individuals and groups defend the status quo in an attempt to defend their very selves.”<sup>44</sup> The element of RAP that is particularly vulnerable to self-perpetuation is its role in calculating and justifying the Flying Hour Program (FHP) budget request. In a time of fiscal uncertainty, perhaps the budgetary elements of RAP are most important to understand to ensure that we approach RAP critically instead of with the shared illusions and “self-sealing” perceptions that characterize *groupthink*.<sup>45</sup>

### **RAP and the FHP**

This section will briefly explain how RAP contributes to the calculations and justifications of the annual ACC FHP. The Air Force Flying Hour Model (AFFHM), depicted in figure 3, explains the basic methodology for how MAJCOMS compute their FHP requirements.<sup>46</sup> The FHP is the lifeblood of the Air Force. AFI 11-102, paragraph 1.1, explicitly states that, “the centrality of the United States Air Force’s readiness and combat capability cannot be overemphasized.”<sup>47</sup> AFI 11-102 further emphasizes that the FHP must be connected to readiness, the requirements to train, and be easily understood.”<sup>48</sup>

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<sup>42</sup> A3TO, Air Combat Command, ACC Readiness Review Project Phase 1: Global Precision Attack / Air Superiority, staff study, 2013.

<sup>43</sup> Gareth Morgan, *Images of Organization* (Newbury Park, CA: SAGE Publishing 2007), 236.

<sup>44</sup> Gareth Morgan, *Images of Organization*, 236.

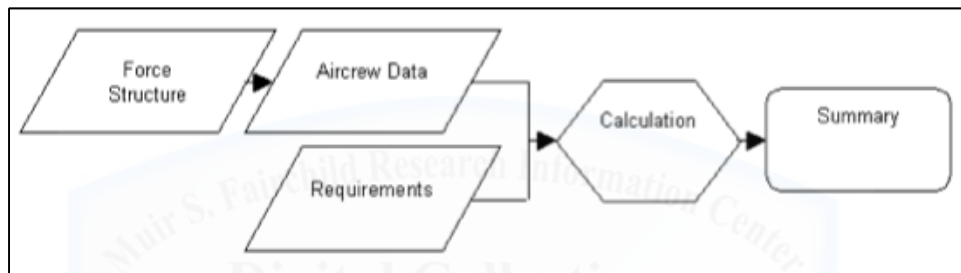
<sup>45</sup> Gareth Morgan, *Images of Organization*, 211.

<sup>46</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 4.

<sup>47</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 4.

<sup>48</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 4.

The AFFHM is a tool that incorporates force structure, aircrew data, and training requirements into a calculation that produces a quantity of flight hours converted into dollars for Congressional funding.<sup>49</sup> Each MAJCOM produces the inputs for the various steps of the AFFHM. An easy way to understand RAP's role in the budget process is to use the notional 23BS and show how they would compute their FHP request. The first component of the AFFHM shown in figure 3, Force Structure, refers to the number of aircraft and crews the squadron has.<sup>50</sup> As shown in Table 1, the 23BS has ten aircraft and must, per its DOC statement, maintain a 1.5:1 crew-to-jet ratio. Additionally, the 23BS has two BMC crews. The next step, Aircrew Data, refers to the determination of requirements for each aircrew identifier such as CMR, BMC, experienced and



**Figure 3: The Air Force Single Flying Hour Model**

*Source: AFI 11-102, Flying Hour Program Management*

inexperienced. For example, according to the RAP requirements listed in the B-1B RTM (see Table 2), a CMR-Inexperienced crewmember requires twenty-four sorties per year. Moving to step three, Calculations, the 23BS multiplies its published RAP requirements by the number of CMR-Experienced, CMR-Inexperienced, and BMC-Experienced crewmembers, to determine that the squadron needs 688 sorties (see Table 3) to meet *minimum* training requirements.

Once the number of sorties is calculated, the 23BS converts them into flight hours.<sup>51</sup> The flight hour conversion equation first requires the 23BS to determine their

<sup>49</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 6-7.

<sup>50</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 7-8.

<sup>51</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 8.

Average Sortie Duration (ASD). The ASD is the average amount of time each local training mission lasts to accomplish effective training.<sup>52</sup> After an ASD is determined by the 23BS, the squadron FHP programmers multiple the squadron's ASD by the amount of sorties required for the RAP year to finally calculate the required number of flight hours for the RAP year. If an average 23BS mission lasts 3.5 hours (to enable low-level training, access to ranges, access to air refueling tracks, and time for landing practice), the 23BS programmers multiply the ASD (3.5) by 688 sorties to derive a flying hour requirement of 2,408 hours. The programmers finally convert the flying hours into dollars for inclusion in the annual Air Force budget request. If for example a B-1B notionally costs \$30,000/hour to operate, the total FHP budget request for the 23BS is (\$30,000 x 2,408) \$72.24 million.

There are a couple of points to note about RAP's role in the budget process. ACC initially derives RAP training requirements through strategy-to-task. However, once the RAP training numbers are set, the RAP requirements themselves become the central reference point for budget planning. In other words, once ACC decides that three sorties a month are required for a CMR-Inexperienced B-1B pilot, three sorties a month becomes a planning factor for future financial plans. This is normal forecasting in financial planning, but it is problematic to assume a specific future-sortie requirement in readiness planning because requirements are supposed to be responsive to defense-strategy needs. Embedded interests may resist attempts to change the three-sortie requirement, particularly if program managers apply a special significance or permanence to requirements won through previously hard-fought battles, even though the present validity of the requirements is questionable.<sup>53</sup> If ACC and its combat units do not continually motivate each other to reevaluate their RAP requirements against the latest strategic requirements, a self-supporting cycle can spawn, in which the current RAP requirements, *validated by time*, become the central justification for future RAP

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<sup>52</sup> Air Force Instruction 11-102 Air Combat Command Supplement, *Flying Hour Program Management*, 7 June 2007, 8.

<sup>53</sup> Gareth Morgan, *Images of Organization*. 228.

requirements. ACC cannot afford to trap itself in such a cycle if the combat air forces are going to retain a leading role in America's changing defense strategy.

## **Summary**

The main goals of this chapter were to explain to the reader how the RAP model should function and to present the obstacles to that currently block RAP from functioning optimally. This chapter began by first exploring the linkage of defense strategy requirements to RAP's tactical training requirements. The strategy-to-task linkage between the 2012 DSG and ACC's RTMs is a critical element in the formulation of *executable* strategy. The main goal of military strategy should be the formulation of a world vision that military forces can bring to fruition with the nation's current resources or within the nation's realistic capability to quickly acquire the needed resources.

America's historically strong economic and industrial bases enabled past military strategists the freedom to devise impressively bold and ambitious visions of America's place in the world. From the American military's role as a firewall against communism in the Cold War to the military's role as a suppressor of world terrorism over the last decade, American resources proved themselves up to the task of fulfilling strategic requirements. With the advent of the 2011 BCA and its associated sequestration provisions, the current defense strategy acknowledges that resource reductions threaten America's past way of fighting. Today, every tactical action imposes costs that divert funds away from other latent tactical capabilities that may directly affect the ability to fulfill strategic goals. It is therefore essential that ACC and its combat units increase their understanding of the direct links between their day-to-day training activities and the strategic goals they support. This holistic approach to strategy and tasks is essential to develop a culture that views RAP requirements as means to a strategic end, not as means to an end in and of themselves.

After discussing the strategic purpose of RAP, this chapter provided the reader a primer on the basic components and operation of RAP. Through the example of a B-1 squadron, this chapter explained the detailed workings of RAP. Once ACC derives its tactical tasks from strategic guidance and regional command OPLANS, ACC releases a

RAP Tasking Message that directs on which missions each aircraft community will focus its training over the following RAP year. During the RAP year, squadrons develop and execute their own training plans within the general guidance of the RTM and its associated Air Force Instructions. On a monthly, quarterly, and annual basis, aircrews must fly a *minimum* number of sortie and simulator events to remain combat-mission-ready.

Squadron commanders are responsible for assessing the readiness rates of their squadron and reporting that readiness through various databases such as DRRS, GSORTS, and ART. At present, squadron commanders are relatively limited in their ability to reallocate training resources between aircrew without affecting the readiness status of multiple personnel. This is because RAP requirements are *minimum* requirements. In an environment of tight resources, squadrons do not possess reserve sorties for remedial training. A squadron commander has to take a sortie away from another crewmember to provide the struggling crewmember an additional sortie above the *minimum*.

Squadron training officers refer to the shifting of sorties between crewmembers as the RAP shell game. If crewmembers will meet their three-month Lookback, a squadron commander can take a monthly sortie away from them, give it to another crewmember for remedial training and still designate both as CMR for the month. In another version of the shell-game, if the squadron is not allocated enough sorties for all aircrew to meet their monthly CMR requirements, squadron commanders can purposely rotate aircrews on and off of probation status to enable each crewmember to remain CMR even though the quarterly and annual flying rates required by RAP are not met. The point of this shell-game example is not to pass judgment on such practices, which are entirely permissible under the applicable AFI, but to provide further evidence that RAP values flying rate more than it values proficiency. When resources are plentiful and aircrew consistently accomplish their RAP flying requirements, proficiency likely follows. When resources are short however, proficiency is not simply equivalent to flying rate, and squadron commanders deserve more flexible means of using resources to ensure proficiency than having to resort to the RAP shell game.

After showing how RAP works on paper, this chapter discussed RAP's real-world effectiveness at producing combat-ready aircrews. According to ACC's own analysis, the severe underfunding of RAP is leading to unprecedented levels of low readiness across ACC.<sup>54</sup> While ACC's analysis may be right, its analysis is primarily based on RAP's adherence to flying rates "validated over time."<sup>55</sup> ACC reports certainly detail the effects of reduced funding, limited ranges, inadequate experience, high deployment rates, shrinking aircraft fleet size, and reduced manning levels. All of these issues will negatively affect training and degrade the proficiency and capabilities of aircrews over time. The major shortfall in ACC's analysis slides is that all of the negative trends they convey relate back to RAP requirements and not to strategic requirements. The slides depict a world of things that ACC can no longer do in training because Congress did not fund operations at the level ACC wanted. In essence, the reports simply show that because Congress dropped on anvil on ACC's foot, the foot bruised. At some point, ACC and its combat units must accept that the bruise is not going away any time soon. It is now time to start figuring out what elements of national strategy ACC units can or cannot execute with the resources in place. It is time to accept that ACC may need crutches, or different ways of training and presenting forces in today's less-than-optimal resource environment if combat airpower is going to retain the hard-won trust of political leadership and the American people.

Finally, this chapter discussed RAP's key role in the formulation of the ACC Flying Hour Program. The main takeaway from this section is that ACC squadrons, to ensure they adequately reflect the requirements of national strategy, must continuously revalidate the RAP requirements forming the basis of all ACC squadron flying-hour calculations. Once ACC views RAP requirements as justifications in their own right, they will become difficult to modify despite significant changes in defense strategy.

One of the key goals in RAP's creation in 1996 was to "provide a more accurate reflection of unit readiness levels."<sup>56</sup> Despite FHP funding below requirements beginning

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<sup>54</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

<sup>55</sup> A3, Air Combat Command, ACC Readiness Review Project-Weapons School Trends, staff study, 16 Dec 2011.

<sup>56</sup> History, Air Combat Command, 1997, 95.

in 2006, Air Force crews were able to shift gears from permissive CAS operations in Iraq and Afghanistan and successfully impose a no-fly zone over an air-defense-equipped Libya in 2011. The stunning success of the air forces over Libya, despite a decade of focused CAS rotations to U.S. Central Command, inspires more questions than answers. How did an underfunded RAP program still produce crews capable of taking down an air defense system while most resources supported training on CAS? Is the RAP model capable of accurately assessing combat readiness for the dynamic contingencies forecast in the 2012 DSG? Should ACC modify or replace RAP to improve flexibility in resource allocation since budget reductions are now normal business under law? The next chapter will try to address some of these questions by proposing alternatives to models to the RAP model.



## Chapter 2

### Alternative Readiness Models

The passage of the 2011 Budget Control Act by the US Congress placed extreme pressure on the Department of Defense to immediately find sources of savings within its budget. The three broad budget areas from which funding could be recaptured were investment, readiness, and infrastructure. According to then Acting Air Force Secretary Eric Fanning, infrastructure (including personnel and physical facilities) cuts produced savings too slowly, making readiness and investment the key focus areas for immediate cuts.<sup>1</sup> With an aging fleet of fighter and bomber aircraft, Air Force Chief of Staff General Mark Welsh unequivocally stated that to survive in combat the Air Force must modernize itself through its continued investments in the F-35, KC-46, and long-range strike-bomber acquisition programs.<sup>2</sup> Unable to rapidly reduce infrastructure and investment accounts, therefore, the Air Force must use readiness accounts to comply with the legally mandated budget cuts.

Like the Air Force, the US Army plans to balance its budget by reducing readiness costs. To cope with reduced readiness resources, the US Army is adopting a “tiered-readiness” training model as the basis of its FY15 budget request.<sup>3</sup> In the Army tiered readiness model, a select number of units assigned to the new Army Contingency Force, the 82<sup>nd</sup> Airborne Global Response Force, and the Army brigades within South Korea will be funded and trained for full-spectrum combat.<sup>4</sup> The remainder of the Army units will receive a reduced level of funding, limiting them to basic-skills training until an

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<sup>1</sup> Amaani Lyle, “AF Envisions Smaller Force to Preserve Readiness,” *Air Forces Press Service*, 17 December 2013, [http://www.afrc.af.mil/news/story\\_print.asp?id=123374599](http://www.afrc.af.mil/news/story_print.asp?id=123374599).

<sup>2</sup> Barrie Barber, “Air Force Looks to Boost Combat Readiness,” *Dayton Daily News*, 16 December 2013, <http://militray.com/daily-news/2013/12/16/air-force-looks-to-boost-combat-readiness.html>.

<sup>3</sup> Sydney J. Freedburg Jr., “Tiered Readiness Returns in Army 2015 Budget; Not All Brigades Ready to Fight,” *Breaking Defense*, 4 March 2014, <http://breakingdefense.com/2014/03/tiered-readiness-returns-in-army-2015-budget-not-all-brigades-ready-to-fight/>.

<sup>4</sup> Sydney J. Freedburg Jr., “Tiered Readiness Returns in Army 2015 Budget; Not All Brigades Ready to Fight.”

imminent or ongoing conflict requires the unit to conduct training that is more advanced.<sup>5</sup> The Army's goals with tiered readiness are to provide an immediate Army response capability while preserving sufficient strategic depth and retaining key modernization programs to the maximum extent possible under a reduced budget.

As late as November of 2013, General Welsh rejected any suggestions that that US Air Force adopt a tiered-readiness approach like the Army. In his view, the tiered-readiness model does not match the strategic requirements placed on the Air Force, and such a plan would negate airpower's primary benefits of responsiveness, flexibility, and speed."<sup>6</sup> General Mike Hostage, the Commander of Air Combat Command (ACC), expressed concern in February of 2013 when he observed that budget projections indicating insufficient flight hours, inadequate weapons-system-sustainment funding, and underfunded training ranges would force ACC to adopt a tiered-readiness training model.<sup>7</sup>

Over a year has passed since General Hostage made his remarks, and ACC has yet to adopt a tiered-readiness model despite a glaringly obvious gap between RAP-generated training requirements and the resources provided by Congress. The lack of consensus amongst senior Air Force leaders has not inspired an open discussion about how an Air Force tiered-readiness training model would look or function. In the absence of a tangible tiered-readiness model, or any alternative readiness model, little analysis publically exists concerning how such a model(s) might effectively produce the amount of ready airpower needed to meet national security requirements.

This chapter presents two alternative models to ACC's Ready Aircrew Program: the Tiered-Readiness Program (TRP) and the Specialized-Readiness Program (SRP). They are designed to provide combat airpower capable of effectively supporting the

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<sup>5</sup> Sydney J. Freedburg Jr., "Tiered Readiness Returns in Army 2015 Budget; Not All Brigades Ready to Fight. "

<sup>6</sup> Jeff Schogol. "Welsh Fears 15% Cut In Flying Hours," *Air Force Times*, 14 November 2013, <http://www.airforcetimes.com/article/20131114/NEWS08/311140011/Welsh-fears-15-cut-flying-hours>.

<sup>7</sup> Amy McCullogh. "Tiered Readiness at ACC," *Air Force Magazine*, 22 February 2013, <http://airforcemag.com/Features/organization/Pages/box022213tiered.aspx>.

current defense strategy despite significant reductions to the defense budget. First, the chapter presents both models in a strategy-to-task manner beginning with how each model will provide needed airpower to the combatant commanders. Then, this chapter forecasts the impact of each model at the MAJCOM level with a particular emphasis on budgeting, readiness assessments, and reporting. The chapter concludes by applying each model to the squadron level to show how the training of aircrews would diverge from the current RAP model.

At the completion of this chapter, the reader should understand the underlying assumptions, the structural characteristics, and the basic limitations of the tiered-readiness and specialized-readiness models. The Air Force can immediately adopt both of these models through utilization of currently available combat and training technologies.

### **The Tiered Readiness Program (TRP)**

The US Air Force institution does not currently consider tiered readiness to be a usable model for air operations. As a result, it is unknown exactly what such a model would look like. The underlying condition that drives a military force toward tiered readiness is a shortage of resources. If Congress funded the RAP model, each ACC unit could train to its optimal level of readiness, which by extension reduces strategic, operational, and tactical risk to the lowest possible levels. In contrast, when Congress underfunds RAP, each ACC unit cannot fully train to all of its assigned missions resulting in a less capable force that is more risky to deploy. The primary goal of the tiered-readiness model then, is to generate a contingent of combat-ready air assets capable of rapid-response and full-spectrum operations despite the existence of a resource shortage.

A Tiered-Readiness Program (TRP) would create rapidly deployable airpower by first dividing the available combat air forces into different groupings or tiers. A possible starting point for organizing air forces in a manner consistent with tiered-readiness logic is the Combined Joint Chiefs of Staff (CJCS) three-tiered readiness metric shown in Figure 4. The CJCS three-tiered readiness metric grades unit readiness as “Y”, “Q”, or

“N”.<sup>8</sup> A “Y” unit is capable of fully accomplishing its assigned task, a “Q” unit can accomplish some assigned tasks, and an “N” unit is not capable of completing tasks at an acceptable level.<sup>9</sup> Available resources are first directed toward the top tier of “Y” forces. Once the “Y” forces are fully resourced, the lower tier(s) utilize(s) the remaining resources to reach a “Q” status and avoid falling to “N” status.

Three –Tier Y/Q/N Scale	Definition
Y	Unit can accomplish task to established standards and conditions.
Q	Unit can accomplish all or most of the task to standard under most conditions. The specific standards and conditions, as well as the shortfalls or issues impacting the unit’s task, must be clearly detailed in the MET assessment.
N	Unit unable to accomplish the task to prescribed standard and conditions at this time.

**Figure 4: CJCS Three-Tier Readiness Metric**

*Source: CJCS Guide 3401D*

The smallest practical unit for forming tiers is the squadron. As depicted in figure 5 below, the ACC squadrons utilizing TRP divide into two or three tiers with the first tier composed of the front-line air units most likely to deploy in the event of a short-notice conflict. The second and third tiers would be composed of near-term aerial reinforcements and long-term aerial reinforcements respectively.

The first-tier units would receive funding priority from ACC to ensure that they were capable of executing all of their assigned missions at any time and against any adversary. ACC would fund the second and third tier units after fulfilling the first tier's funding requirements. With the remaining money, the second and third tiers would focus their resources and training on maintaining fundamental flying skills and gaining familiarity in as many missions as the funding would support. Second-tier and third-tier forces would require additional training focused on mission requirements before becoming ready to deploy.

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<sup>8</sup> CJCS Guide 3401D, *CJCS Guide to the Chairman’s Readiness System*, 15 November 2010, 18.

<sup>9</sup> CJCS Guide 3401D, *CJCS Guide to the Chairman’s Readiness System*, 15 November 2010, 18

Air Combat Command's management process of TRP would share many of the same processes used to manage RAP, since TRP is simply a plan to cope with RAP underfunding. Each unit would retain the same assigned missions and tactical tasks as it

TIER 1	CMR training requirements fully funded
Contingency Response Forces	Rapid response capability to any contingency Force size is limited
TIER 2	BMC training requirements partially funded
Near-Term Reinforcements	Requires 30 to 60 days of pre-deploy training Larger force size than Tier 1 but less flexible
TIER 3	Funding sufficient only for basic skills training
Long-Term Reinforcements	Requires 60 to 120+ days of pre-deploy training Largest force size but least flexible

**Figure 5: Example of a Three-Tier Organization**

*Source: The Author's Original Work*

had under RAP, therefore the minimum requirements to train aircrews to the CMR and BMC levels would remain the same as they were under RAP. With the minimum requirements unchanged, ACC can still utilize the established FHP budget request process.

Currently, when FHP funding comes in below RAP minimums, ACC distributes the reduced funds equally among its units causing the readiness level of all the units to degrade and the risk to mission success to increase. If the gap between the funded and unfunded training requirements widens, the amount of risk to mission success will likewise increase. At some point, the cycle of reducing combat capability while increasing risk must be broken, or else the CAF will become a hollow force - a force incapable of performing its assigned missions with an acceptable level of risk.

The ability of tiered-readiness to mitigate risk in the face of resource shortfalls is precisely what makes a TRP look so attractive to some military and political leaders. Assuming the forecasts of the AFSEA and the DSG are reasonably accurate, the highest probability is for conflicts of small to moderate size and shorter duration. The AFSEA and DSG do not consider major conventional operations (MCO) to be probable over the next decade. If the most likely conflicts will be smaller and shorter in nature, then only a portion of the CAF should be required to address any single contingency. By keeping a portion of the force funded and therefore fully trained for any eventuality, ACC could

provide a sufficient number of highly capable squadrons (Tier 1) able to rapidly deploy while coping with budget levels that are well below ACC requirements.

After ACC reorganizes its forces into tiers, mission-risk assessments will focus on the ability of the Tier 1 force to handle the contingency and whether mobilization of Tier 2 or Tier 3 forces must occur. A fully trained and equipped Tier 1 contingency response air force could support a small or short regional conflict scenario, whether the airspace is contested or uncontested, with a low risk to mission accomplishment. If the contingency escalated or was larger than the Tier 1 forces could handle independently, Tier 2 forces would mobilize to ensure fulfillment of combatant commander requirements. The limited number of highly capable Tier 1 forces increases mission risk to moderate until the Tier 2 forces arrived. Tier 2 forces would require 30 to 60 days of additional training to become deployment-ready and would still be less broadly trained than the Tier 1 forces, thereby limiting Tier 2 flexibility once in the AOR. If the conflict continued to rapidly expand and Tier 3 forces were required to accomplish combatant commander requirements, the risk to mission success would become moderate to high. Tier 3 forces would require 60 to 120+ days of training to reach to a deployable capability level. Tier 3 forces would likely be funded just enough to maintain basic flying proficiency in the actual aircraft with the majority of their mission training accomplished in simulation. The reduced general proficiency level of Tier 3 forces, relative to the BMC Tier 2 forces, would drive the lengthened Tier 3 spin-up period. Until the Tier 3 forces deploy, missions may go uncovered by overtasked Tier 1 and Tier 2 forces. Upon arrival in the AOR, Tier 3 forces would be least flexible, or less able to accept multiple mission tasks, since their pre-deployment training would necessarily have been highly focused to get the forces to the AOR as quickly as possible.

The reporting of tiered capabilities and risks will require ACC to make some minor modifications to the ways its units report their readiness in GSORTS, DRRS, and ART. Since Tier 1 forces require full resourcing for the accomplishment of their assigned missions, readiness-reporting procedures by Tier 1 units should be unchanged from the current methodology. Tier 2 and Tier 3 units will require some modifications in their reporting procedures and metrics. Tier 2 units should be training to a BMC level

and therefore should expect to receive a lower quantity of resources than Tier 1 units. In GSORTS<sup>10</sup>, a resource-based reporting tool, Tier 2 units will likely report a C-level lower than Tier-1 units, while Tier-3 units will normally report a C-level lower than Tier 2 units. In DRRS<sup>11</sup>, a capabilities-based reporting tool, Tier 2 units should normally report familiarity in their assigned missions. Tier 3 units would typically report a lack of readiness in all of their assigned missions. In ART<sup>12</sup>, a personnel-based reporting tool, the number of deployment-ready personnel within each squadron should decline as one moves from the Tier 1 to Tier 3 units. The less funding a unit has, the more difficult it is to keep individual personnel constantly ready to deploy in support of a UTC.

The assignment of training tasks will require modification by ACC if the output of the readiness reports is going to make any sense. ACC annually aligns training requirements to mission tasks through the RAP Tasking Memorandum (RTM). The RTM specifies which missions each MWS will train for and how to prioritize mission training in the event of resource shortfalls. The RTMs will require updating to account for the differing scopes of training within each tier. Tier 1 RTMs would be unchanged from current RAP RTMs. Tier 2 RTMs would be similar to the current RTM but would utilize flying-rate requirements at the familiar (BMC) and basic (BAQ) skills levels. Tier

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<sup>10</sup> Global Status of Resources and Training System (GSORTS): (from CJCS Guide 3401D) GSORTS reports are a central registry of each combat unit's *resourced-based* assessment of unit personnel, equipment, and training levels. Units report their overall readiness assessments as a category level (C-level) ranging from C-1 (best) to C-4 (worst). Resources are individually reported in four areas: Personnel (P-level), Equipment and Supplies on hand (S-level), Equipment Condition (R-level), and Training (T-level). Completed GSORTS are classified.

<sup>11</sup> Department of Defense Readiness Reporting System (DRRS): (from CJCS Guide 3401D) DRRS is an authoritative and collaborative reporting system that allows users to evaluate, in near real-time, the readiness of US Forces to accomplish assigned and potential tasks. Unit commanders utilize DRRS to communicate their unit's ability to execute their mission essential tasks (METs) within the conditions designated in DRRS. Commanders have some freedom in DRRS to set the standards of successful accomplishment of the MET. In the case of ACC airpower, proficiency and familiarity translate into combat mission readiness and basic mission readiness respectively.

<sup>12</sup> Air and Expeditionary Force Unit Type Code Reporting Tool (ART): (from Wing Leadership Guide to the AEF) Squadron commanders use ART to report the availability of an individual unit type code (UTC) to perform its Mission Cap ability Statement (MISCAP) anywhere in the world at the time of the assessment. A UTC defines a capability composed of personnel and/or equipment required to support the national military strategy during deliberate, crisis action, and rotational planning. Commanders report UTCs in ART as "red", "yellow", or "green". A "red" UTC is not ready to deploy. A "yellow" UTC is capable of deploying with some assistance. A "green" UTC is fully capable and ready to deploy.

2 unit simulator requirements would be larger than Tier 1 unit simulator requirements to compensate for lost flying hours. Tier 2 RTMs should retain the primary and secondary mission priorities published in the current ACC memorandum. Tier 3 RTMs would require the most modifications from the current memorandum. Tier 3 forces would be required to fly at only a BAQ rate and would be heavily dependent on simulators. Ground training requirements would also be relaxed relative to Tier 1 and Tier 2 units. Weapons-training events would be limited to the simulator, as would all tactical training scenarios. Ideally, part-time Air Force Reserve personnel would primarily staff a Tier 3 unit.

Despite the numerous changes that a TRP brings to the MAJCOM level, changes at the squadron level would be limited primarily to changes in the rates of flying, simulator, and ground training as directed by the RTM. Squadron Commander assessments of combat readiness, restrictions on the ability to shift FHP resources, and the use of a squadron-generated Tactical Training Plan would continue to be the norm in units organized into tiers.

The Squadron Commander would still assess the squadron's combat readiness through the AFI11-2MDS, Volume 1 look-back process that assesses readiness as a function of the mandated minimum flying rate. Commanders of Tier 1 squadrons would assess their personnel in relation to CMR flying rates while Commanders of Tier 2 squadrons would assess their personnel against BMC flying rates. Commanders of Tier 3 units would assess the readiness of their personnel relative to newly developed BAQ flying rates. At present, BAQ flying rates do not exist within RTMs because BAQ is a transitory status between the completion of the Initial Qualification Course (IQC) and commencement Mission Qualification Training (MQT).

The ability of the squadron commander to independently shift FHP resources between aircrew will continue to be restricted. This is because like RAP, TRP will utilize *minimum* flight rates to determine when aircrews reach their required state of readiness. Although personnel can always fly more than the minimum flight or simulator events without additional approval, they cannot be certified as mission ready if they flew less

than their published 1-month and 3-month look-back requirements, even if judged mission-proficient by the squadron commander.

Although ACC would direct, through the RTMs, what missions squadrons would train to execute, ACC would continue to delegate to the squadrons the responsibility of planning how to train. Squadron tactics and weapons shops would need to consider developing plans for mission training within each tier since squadrons would occasionally be shifted between tiers to ensure that the personnel in each squadron were given fair opportunities to amass flight hours and gain experience in multiple missions as they advanced through their careers.

ACC can implement a Tiered-Readiness Program, as described in this chapter, in relatively short order because it would utilize most of the administrative framework already built under RAP. TRP would generate a highly responsive, full-spectrum readiness force of limited in size that could be sustained within a reduced CAF operations and maintenance budget. The TRP tradeoff is that the forces not allocated to the Tier 1 contingency force would be incapable of deploying without a period of focused pre-deployment training. The utilization of tiered forces would require modified reporting and analysis methods to reflect the different readiness standards of each tier. The main strength of TRP is that it enables the Air Force to provide some measure of world-leading airpower capabilities against no-notice contingencies throughout the world. The main weakness of TRP is a significant reduction in the CAF's strategic depth; rapidly bringing into questions the CAF's ability to address simultaneous contingencies.

### **The Specialized-Readiness Program (SRP)**

A Specialized-Readiness Program (SRP) provides an alternative to tiered-readiness for generating and sustaining combat-capable forces on a smaller budget. SRP adapts the current Air Force logistics process of UTC packaging to create an Air Contingency Force than can be flexibly constructed by the AEF Center<sup>13</sup> to contain any

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<sup>13</sup> The Air Expeditionary Force (AEF) Center is the Air Force hub for the creation, monitoring, and tasking of validated UTCs. Air Force Component Commands determine Air Force requirements, while the AEF Center assists in the construction and fulfillment of the Time-Phased Forces Deployment Document (TPFDD) to ensure that the proper UTCs are teamed by the AEF Center against COCOM requirements.

regional crisis while providing a deeper force structure and reducing the time needed to train follow-on air forces in the event of a prolonged or expanded conflict. This section will first explain how SRP affects the organization of ACC units. Next, this section will explain the configuration of SRP training forces for response to a short-notice contingency. Then, this section will explain how adoption of the SRP model would require ACC to adopt a more proactive and dynamic approach to the management of CAF readiness. Lastly, this section will explain how implementation of SRP impacts unit-level training practices.

Currently under RAP, the RTM assigns mission types and mission priorities by MWS grouping. For example, the AS-14 *F-15E Ready Aircrew Program (RAP) Tasking Memorandum* currently tasks all nine F-15E squadrons to train for six priority missions, four secondary missions, and six basic skills missions.<sup>14</sup> Because all of the F-15E units are applying the same ACC-directed priorities to the same missions, it is unlikely that any of the F-15E squadrons will address the lower-priority missions, particularly as flight-hours allocations shrink. The danger then is that there may not be an F-15E unit available to execute a needed mission at short notice.

The primary goal of SRP is to provide air forces that are highly proficient, or specialized, in a limited number of missions. SRP logic assumes that full-spectrum readiness for every squadron, all of the time, is no longer feasible under current and projected cuts to the Air Force's Operating Forces (BA-01) budget activity line.<sup>15</sup> To ensure that the CAF can provide the right capability at the right time, SRP first assigns one or two specified missions to each squadron. Using the F-15E squadrons as an example again, SRP could assign Air Interdiction (AI)/Offensive Counterair-Attack Operations (OCA-AO) to the 494th, 389th, and 335th Fighter Squadrons, Close Air Support (CAS) and Strike Coordination and Reconnaissance (SCAR) to the 492d and 336th Fighter Squadrons, and Defensive Counter Air (DCA) and Red Air to the 391st and 334th Fighter Squadrons. By assigning specific missions to particular squadrons, ACC

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<sup>14</sup> ACC/A3T, *F-15E Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 4-5.

<sup>15</sup> Department of the Air Force, *Fiscal Year (FY) 2014 Budget Estimates, Operation and Maintenance, Air Force Volume I*, April 2013, 7.

can ensure that there will be at least one to two F-15E squadrons capable of executing any short-notice mission type that a combatant commander may require.

Squadrons may initially perceive unit-level mission assignments as micromanagement by ACC. The reality is that ACC command and control must increase as resources dwindle because the ability of a system to absorb errors in the expenditure of resources shrinks as resources decline. For example, given enough time and full funding, two F-16 units will train to execute each of their assigned missions during the RAP year. By the end of the RAP year, these two units are capable of responding to any short-notice contingency across the ROMO. If the same two F-16 units no longer had sufficient time or funding to train to every assigned mission, they will make choices about which missions to train toward and which to skip. Ideally, the F-16 units will coordinate training plans to ensure that between the two of them, all the potential F-16 missions are covered. If the units do not coordinate their training plans, it is possible that the units will fail to cover some missions and the units will both cover other missions constituting errors in the usage of their limited resources. If ACC actively distributes mission tasks between the two F-16 units, ACC maximizes its resources by eliminating the double-covered and skipped missions. A core responsibility of ACC, or any MAJCOM, is to train and equip combat air forces in a manner that ensures their readiness to support any combatant commander.

The mission specialization of squadrons will reduce the size of ACC's effective force and impact flexibility in two ways. First, the distributed specialization of units will increase deployment flexibility by ensuring that combatant commanders will receive immediate support from at least one squadron that is highly proficient in whatever mission is required within the range of military operations (ROMO). For complex multi-mission scenarios, the AEF Center will package multiple specialized squadrons together in the same fashion that the AEF Center packages individual airmen of differing specialties together into deployment UTCs for complex support operations such as the establishment of an Air Operations Center. CAF assets not specializing in the missions needed by the combatant commander will remain at their garrison bases to begin cross-training in the needed mission skills if the rapidly deployed contingency response force

was insufficiently deep in number for the scale and/or duration of the conflict. The second impact of SRP's reduced size of effective force is the reduced flexibility of the air units once they deploy to the AOR. If each squadron specializes in only one or two missions, the squadrons will require replacement or augmentation by other specialized squadrons if the combatant commander's mission focus changes. Such a scenario is likely if the character of the contingency quickly evolves or it lasts longer than initially expected.

These two impacts on flexibility highlight the key areas of risk to mission success under SRP. The fact that every mission is covered by at least one highly proficient squadron means that the CAF can respond rapidly to any contingency with little or no notice, thereby minimizing risk to operations in which commanders judge a fast-armed response as critical to the mission's success. If the contingency is small enough for one or two squadrons per Air Tasking Order (ATO) mission type to address the problem, the SRP model will provide a sufficient number of forces to keep mission risk low. Though extremely rare, a geographically widespread and fast-moving conflict requiring an immediate and overwhelming mass of air combat assets would be very difficult to address under SRP. Risk would quickly increase to moderate or high if SRP-trained assets were required by the ATO to shift between missions outside their areas of specialization or if insufficient numbers of specialized squadrons were available to execute a given mission at the start of the conflict. In the case of a gradually escalating conflict, an SRP option represents a higher level of risk than a funded RAP program but a lower level of risk than TRP.

An assumption held by SRP logic is that the skills involved in execution of one mission are not completely divorced from the skills needed for another mission. In other words, shifting a squadron proficiently trained in CAS to training in AI is not starting from ground zero. Many skills such as radio communications, weapons switchology, and weapons employment overlap between missions, thus allowing a cross-mission spin-up to focus mainly on difference-training. Difference-training for in-garrison reinforcements is likely much quicker and cheaper than training for tiered units that may require a longer training period to elevate their familiar or basic status to CMR. Funded RAP

reinforcements would be more expensive to maintain than SRP reinforcements that could top-off training as needed, but RAP-trained reinforcements could also respond more rapidly in larger numbers than SRP-trained units, thereby driving a lower level of risk for fully-funded RAP reinforcements.

Besides requiring ACC to assign missions in a more targeted manner, implementation of SRP would require ACC to make some changes to both its FHP budget and readiness reporting processes. As discussed in Chapter 1, the ACC FHP budget process currently utilizes published RAP requirements as the justification for flying hour calculations and subsequent funding requests. RAP conveys its requirements in terms of the *minimum* amount of training resources necessary to reach a state of mission readiness. RAP requirements also reflect the institutional Air Force belief that each unit should train for full-spectrum operations to the max extent allowable under the capabilities of the aircraft itself.

The SRP approach to budgeting would first modify RAP's underlying budgeting logic from a *minimum* level of resources to the *average* level of resources needed to attain mission readiness. The utilization of the word *average* opens the door for higher-fidelity readiness assessments, an improved focus on aircrew proficiency over flying rate, and greater flexibility in the distribution of training resources. The *average* training requirement logic established under SRP can apply to the full-spectrum readiness requirements calculated by RAP. While this may initially seem counter-intuitive, since SRP is a specialized model and not a full-spectrum model, it is important to remember that SRP is also a **contingency** training model meant to address the under-funding of full-spectrum requirements. Therefore, full-spectrum requirements would still justify the submitted budget. The SRP training model would only supersede RAP when underfunding of the full-spectrum budget occurred.

ACC reporting requirements will grow more complicated with the implementation of SRP. GSORTS, DRRS, and ART assessments may require modification to reflect the mission specialization of individual units and the response capabilities of the numerous potential combinations of packaged forces. Through the overall schema of GSORTS, reporting will not require modification but the expectations

of military and political leadership will require some re-calibration. By definition, an SRP unit would be under-resourced; otherwise, it would not be specializing in only one or two missions. This means that in GSORTS, an ACC unit under the SRP model should never report C-1 - the highest resource-based readiness level on the unit GSORTS report. Squadron commanders would be limited to reporting their status as one of the lower resource categories most closely matching the squadron's specialized capabilities and resources.

Like GSORTS, the DRRS reporting database would require no modifications if SRP was implemented. Senior military and political leaders would require updated explanations of what DRRS reports mean under SRP. Unlike in GSORTS, commanders would report their readiness capabilities in DRRS relative to their tasked mission specialties not relative to the full-spectrum of missions. DRRS is a capabilities-based reporting system that should reflect actual capabilities to best aid the awareness and decision making of Global Force Management personnel who ultimately would assign units to a deployment.

SRP would impact the ART report the most. ART helps identify the reporting readiness of individuals vulnerable to fill UTCs that are aligned to Air Expeditionary Force (AEF) requirements. One of the key assumptions in both ART and the AEF concept is that individual airmen possessing the same Air Force Specialty Code (AFSC), or job code, are interchangeable entities.<sup>16</sup> In other words, if a job vacancy in an intelligence cell somewhere in the world requires an intelligence officer, the AEF center will locate an available intelligence officer outside the deploy area and deployment that person to fill the vacancy. If SRP does become the new norm for ACC, significant manpower and unit issues will impact the future feasibility of the AEF concept and the present function of ART. ART modifications could focus on tracking the status of unit specialty training and/or gaps in coverage within specialized deployment packages. Because ACC units would not be training in full-spectrum operations, the assumed interchangeability of personnel and units may no longer be valid with SRP in effect.

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<sup>16</sup> AEF Center, *Wing Leadership Guide to the AEF*, September 2005, 16.

Reporting at the MAJCOM level would focus on the individual and aggregate capabilities of squadrons. At the squadron level, the commander would focus on the capabilities of individual aircrews. Although the sortie count and simulator count would be different under SRP than under RAP, the same AFI11-2MDS, Volume 1 sortie Lookback and currency review process used by RAP could still be used as a starting point for the commander's assessment of aircrew mission readiness under SRP.

The implementation of *average* instead of minimum monthly training requirements, would provide the squadron commander with two additional tools in the readiness-assessment process. First, the squadron commander would have the discretion, based on aircrews' demonstrated proficiency, to designate that people combat-mission-ready even if they flew less than the average number of monthly sorties required. Additionally, if people flew the required average number of monthly sorties, but still had not demonstrated proficiency, the squadron commander could designate them non-CMR (this can also be done today under RAP). In other words, above average aircrew could fly less than the average requirement and remain CMR while below-average aircrew would fly more than the average sortie requirement to attain CMR. The sorties not flown by the pilots achieving early proficiency are available for redirection to the non-proficient pilots most needing the training resources.

A key goal of SRP is to empower squadron commanders with a greater ability to shift allocated resources between individual personnel based on the commander's assessment of individual proficiency levels. The commander is ultimately responsible for ensuring the combat readiness of the unit. If units are to attain the highest possible state of readiness in their assigned missions, commanders must acquire more freedom to assess and address issues precluding successful mission accomplishment.

In addition to assessing the monthly readiness of squadron personnel, flying squadron commanders are responsible for developing and broadening the skills of their personnel. If personnel are not actively managed under SRP, the danger is that aircrew may not receive sufficient exposure to the various missions their airframe is capable of executing. Flying instructors are vital to the long-term health of an airframe community; and to be an effective instructor, one must be experienced in all the ways an aircraft

employs in conflict. To ensure the mission health of the total combat force, it is necessary to rotate missions between units at predictable intervals, or else personnel require rotation between squadrons executing different missions. It is important to note that different missions may require different monthly flying rates, depending on the complexity of the mission or the ability to train for the mission in simulators or companion trainers. The key takeaway is that in an environment of specialization, squadron commanders will have to attain greater visibility on the assignment and skill histories of their personnel and actively manage their training folders.

Like TRP, ACC could quickly implement a Specialized-Readiness Program to address funding shortfalls below RAP's minimum requirements. SRP would generate a fast-responding specialized readiness force of greater size than available through TRP. The major deficiency in SRP is that, by specializing squadrons in just one or two missions, expensive aircraft capable of full-spectrum operations would become limited by the capabilities of their pilots. Packages of specialized squadrons could be highly tailored to the initial needs of a combatant commander; but, once deployed, the squadrons would not be capable of switching to different missions without first receiving some amount of mission-differences training. SRP forces would all be CMR in at least one mission; therefore, the proficiency starting point for cross-mission training would likely be further along than a comparable tier-2 or tier-3 squadron managed under TRP. The utilization of tiered forces would require modifications to reporting and analysis methods to reflect the different mission capabilities of each squadron and each pre-planned contingency-response package. The main strength of SRP is that it enables the Air Force to provide diverse airpower capabilities for no-notice contingencies while ensuring that none of the CAF units becomes idle due to resource shortages.

## **Summary**

This chapter explained two alternative approaches to RAP for developing combat-ready air forces. Both the Tiered-Readiness Program and the Specialized-Readiness Program are budget-driven training models that prioritize a rapid contingency response capability, of limited scale, over the slow deployment of a large-scale force for the

execution of a major conventional war. This chapter explained the assumptions and logical underpinnings of each model in addition to the organizational differences between the two models. This chapter also discussed the impacts on MAJCOM and the squadron level budgeting, reporting, and training. With the basic strengths, weaknesses, and risk areas of each model in mind, the next chapter will consider the ability of RAP, TRP, and SRP to fulfill the requirements of the Defense Strategic Guidance in spite of dramatic cuts to the defense budget.



## Chapter 3

### Model Analysis

*With us air people, the future of our nation is indissolubly bound up in the development of air power. Not only will it insure peace and contentment throughout the nation because, in case of national emergency, air power, properly developed, can hold off any hostile air force which may seek to fly over and attack our country, but it can also hold off any hostile shipping which seeks to cross the oceans and menace our shores.*

– William “Billy” Mitchell, 1925

Following World War I, airpower advocates, such as William “Billy” Mitchell, emphasized airpower’s ability to rapidly respond to and defeat unforeseen attacks against the American homeland. Eighty-nine years after Billy Mitchell argued his position in *Winged Defense*, the 2014 Quadrennial Defense Review similarly states that American airpower is “critical to national security” and “vital to the Department’s ability to project power globally and to rapidly respond to contingencies.”<sup>1</sup> Air Force Basic Doctrine further proclaims that airpower is an essential component of the American fighting forces that, through control of the air, provides land and sea forces freedom of maneuver and creates “the environment for [mission] success.”<sup>2</sup>

A critical assumption in all of these proclamations about airpower’s efficacy is the notion that airpower can respond quickly because it is always *ready* to do so. None of the claims made by Mitchell, the QDR, or Air Force doctrine are possible if the Air Force cannot train or equip to perform its national-security duties. A central strategic challenge identified by both the DSG and the QDR is a quickly declining defense budget driven by the 2011 Budget Control Act and its associated sequestration measures. The QDR succinctly warns that the cuts of the BCA, when combined with sequestration, create readiness challenges that “particularly in the near term, would greatly reduce both our ability to conduct steady state activities and to respond quickly in a crisis.”<sup>3</sup>

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<sup>1</sup> Department of Defense (DOD), *Quadrennial Defense Review*. March 2014, 28.

<sup>2</sup> Air Force Doctrine Volume 1, *Air Force Basic Doctrine*, 14 October 2011, 31.

<sup>3</sup> DOD, *Quadrennial Defense Review*, xiv.

Chapter 1 of this paper explained how insufficient financial support is causing ACC to struggle in its production of combat-ready aircrews. Chapter 2 described two alternative training models designed to provide improved airpower readiness within the context of the declining defense budget. The goal of this chapter is to compare ACC's readiness training model, RAP, to the alternative training models of TRP and SRP to determine which model is most capable of providing sufficient force structure and capabilities for the execution the national defense strategy conveyed in the 2012 DSG and the 2014 QDR.

This paper will compare the training models in a manner similar to the Course of Action (COA) Comparison methodology explained in Joint Publication 5-0, *Joint Planning*.<sup>4</sup> The objective of the comparison process “is to identify and recommend” the readiness model that has the highest probability of providing the air power capabilities called for over the next decade.<sup>5</sup> Just like the COA Comparison process, this chapter will rate each readiness model against the chosen evaluation criteria and not directly against one another.<sup>6</sup> After tallying each training model’s ratings, this chapter will compare the relative merits of each model to help determine the recommended training model. Key strategic themes and operational requirements enumerated in both the DSG and the QDR inspired the criteria chosen for the model comparisons. It is important to remember that the comparison process is subjective.<sup>7</sup> The model comparison will not produce a single and unassailable conclusion but will instead articulate some key considerations in the connection of strategic goals to tactical aircrew training. The QDR unequivocally states, “Innovation is a central line of effort...with the intention of maximizing effects while minimizing costs.”<sup>8</sup> It is through a spirit of innovation that the following analysis seeks to find a better way of providing ready airpower in the new resource-limited reality of today.

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<sup>4</sup> Joint Publication 5-0, *Joint Operation Planning*, 11 August 2011, IV-36-IV-40.

<sup>5</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-36.

<sup>6</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-37.

<sup>7</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-40.

<sup>8</sup> DOD, *Quadrennial Defense Review*, V.

## America's Defense Strategy

Before engaging in the model comparison, it is important to first review the elements of America's defense strategy that combat airpower must prepare to support. The military is one of the four instruments of power (IOPs) that America uses to shape the world in ways consistent with American political interests. The National Security Strategy (NSS) provides the broadest expression of American national interests and frames the strategic environment that all of the IOPs will support. The core national interests expressed by the NSS and incorporated into both the DSG and QDR are:

1. The security of the United States, its citizens, and U.S. allies and partners
2. A strong, innovative, and growing U.S. economy in an open international economic system that promotes opportunity and prosperity
3. Respect for universal values at home and around the world
4. An international order advanced by U.S. leadership that promotes peace, security, and opportunity through stronger cooperation to meet global challenges<sup>9</sup>

With these four core national interests in mind, the DSG details the strategic interests that will primarily be pursued through use of the military IOP to help determine defense priorities and spending requirements.<sup>10</sup> Next, the DSG lays out the primary missions that the military will be expected to execute given the expected security environment. Lastly, the DSG provides basic guidance on the prioritization of ways and means in furtherance of the strategic guidance.

The DSG details seven security interests that the United States will pursue to counter threatening conditions in the global security environment. First, in response to the continued presence of violent extremists throughout the world, particularly in South Asia and the Middle East, "*the United States will continue to take an active approach to countering these threats*" through surveillance, improved governance, and direct

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<sup>9</sup> DOD, *Quadrennial Defense Review*, 11.

<sup>10</sup> Department of Defense (DOD), *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, January 2012, i.

strikes.<sup>11</sup> Next, to meet growing U.S. economic and security interests from the Western Pacific to the Indian Ocean region, U.S. military forces will “*rebalance toward the Asia-Pacific region*” and pursue a “long-term strategic partnership with India.”<sup>12</sup> Third, acknowledging continuing instability in the Middle East, “*the United States will continue to place a premium on U.S. and allied military presence in-and support of-partner nations in and around this region.*”<sup>13</sup> Fourth, because the European NATO countries now produce more security than they consume, the U.S. military will draw down its continuous footprint in Europe.<sup>14</sup> Next, in light of America’s shrinking defense budget and the corresponding reduction in force size, the building of security partnerships with countries throughout the world will assume new significance.<sup>15</sup> America will pursue these new security partnerships in the most cost effective manner possible with an emphasis on “*innovative, low-cost, and small-footprint approaches.*”<sup>16</sup> Sixth, the globalized economy and economic interdependence of nations requires the United States to assume a lead role in the protection of the global commons, against both state and non-state actors, “*by strengthening international norms of responsible behavior and by maintaining relevant and interoperable military capabilities.*”<sup>17</sup> Lastly, the United States will continue to develop its capabilities to counter the possibility of the use of Weapons of Mass Destruction (WMD) by state or non-state actors to threaten the country.<sup>18</sup>

Though the DSG lists numerous military missions that will support the achievement of the seven security interests, five of the missions are particularly suited to airpower’s capabilities. The first mission that airpower must be ready to execute is counter-terrorism (CT)/irregular warfare (IW).<sup>19</sup> The DSG envisions building and sustaining forces possessing **tailored** capabilities for use in this limited form of warfare.<sup>20</sup> The second mission that airpower must be capable of performing is “deterring and

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<sup>11</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 1.

<sup>12</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 2.

<sup>13</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 2.

<sup>14</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 3.

<sup>15</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 3.

<sup>16</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 3.

<sup>17</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 3.

<sup>18</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 3.

<sup>19</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 4.

<sup>20</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 4.

defeating aggression by any potential adversary.”<sup>21</sup> In contrast to the tailored capabilities needed for CT and IW, deterring and defeating an enemy (if deterrence fails) requires air forces with full-spectrum capabilities. The DSG specifies that if US forces execute a large-scale operation, they must retain the simultaneous capability to “deny a capable state’s aggressive objectives” or “impose unacceptable costs” in another region.<sup>22</sup> The requirement for forces to defeat one adversary while only denying the objectives of a second adversary implies that a US force structure with varying degrees of capability may fulfill this mission.

The third mission is to develop the capability to project military power into regions employing anti-access/area denial (A2/AD) strategies.<sup>23</sup> Overcoming a high-technology A2/AD strategy requires using correspondingly high-technology air and sea forces possessing the ability to operate in contested conditions including degraded communications, denied GPS, and dense electronic warfare. The goals of A2/AD are quite simple: to prevent US forces from deploying into the contested region and to prevent U.S. forces from achieving freedom of action.<sup>24</sup> The highly specialized capabilities needed to defeat A2/AD strategies include stealth, standoff weapons, long operating range, and robust electronic defenses. Once access is secured by air and sea forces, the high-end capabilities used in the defeat of A2/AD forces will likely be less important in battlefield-shaping missions suggesting that only a portion of the air force needs to be ready and capable for a high-end A2/AD scenario at a given moment.

The fourth mission that US forces must ready themselves to execute is countering weapons of mass destruction (WMD).<sup>25</sup> For the Air Force, this means training forces capable of detecting, targeting, and destroying “WMD, WMD components, and the means and facilities to make them.”<sup>26</sup> In addition to being politically sensitive, WMD

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<sup>21</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 4.

<sup>22</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 5.

<sup>23</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 4.

<sup>24</sup> Directorate of Strategic Planning, *US Air Force Strategic Environmental Assessment* (Washington DC: Department of the Air Force, March 2011), 14.

<sup>25</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 5.

<sup>26</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 5.

targets tend to be limited in quantity. Therefore, a large force it is not likely needed to address a WMD target set. Instead, a small number of highly specialized aircrew, in a variety of platforms, can fulfill the unique demands of WMD target prosecution.

The fifth mission is to defend the homeland against attacks by state and non-state actors. The DSG specifies that successful accomplishment of this mission will require “strong, steady-state force readiness.”<sup>27</sup> The DSG also warns that an attack on America is most likely when its forces are engaged in overseas operations.<sup>28</sup> This last point is important because it reminds military planners that a sufficient quantity of capable reserve forces is necessary if the US military is going retain the capacity to simultaneously meet its global and its domestic defense obligations.

After laying out the priority military missions, the DSG shifts its focus to force structure and readiness. The language of the DSG indicates that American strategic leaders are aware that shrinking resources will negatively affect military effectiveness in the near term. To reduce the impact of resource shortfalls on existing campaign and contingency plans, the DSG encourages military leaders and planners to find operational savings by encouraging innovation and fostering “a culture of change” throughout the DoD.<sup>29</sup>

The complexity of the future strategic environment, coupled with reductions in defense resources creates an immediate dilemma in the execution of the national-defense strategy. On one hand, the wide variety of potential threats to US interests requires the military to maintain a broad spectrum of available capabilities.<sup>30</sup> On the other hand, a highly capable force structure is expensive, forcing the DoD to pursue downsizing policies intended to redirect saved funds toward readiness training and the avoidance of irreversible damage to the all-volunteer force.<sup>31</sup> In short, with the BCA in effect, the military cannot buy its way out of the current strategic problems. The military must

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<sup>27</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 5.

<sup>28</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 5.

<sup>29</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 8.

<sup>30</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 6.

<sup>31</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 7.

instead think about better ways to use current resources in a manner most likely to meet the DSG's objectives.

The 2014 QDR does not stray far from the defense objectives and missions presented by the DSG. The QDR's purpose is to present the DoD's strategy for supporting and implementing the DSG's objectives. The QDR provides more acute planning details than the DSG, particularly in the topic areas of force structure, resource prioritization, and risk.

The QDR presents the defense strategy as three pillars. The first pillar is "protect the homeland", the second pillar is "build security globally", and the third pillar is "project power and win decisively."<sup>32</sup> To best support these pillars, the QDR calls for training forces capable of broad-spectrum operations while retaining the ability to quickly regenerate niche capabilities that the military might need in small contingencies.<sup>33</sup>

Acknowledging the defense budget reductions, the QDR warns that the military will not only have to accept increased levels of risk but will have to operate within smaller margins of error in dealing with risks.<sup>34</sup> If forces are trimmed to meet lowered resource levels, planners must anticipate the strain, and resulting risk to mission accomplishment, that the remaining forces will endure if they are required to respond to more than one major contingency at a time.<sup>35</sup> The QDR expresses two more concerns that are directly relevant to this paper. First, to best cope with the next decade's highly unpredictable security environment, the QDR argues that US forces must learn how adapt more quickly, embrace innovation, and build deeper partnerships.<sup>36</sup> Second, the QDR warns that military capacity and capability reductions driven by the BCA and sequestration "significantly challenge our ability to respond to strategic surprise, particularly those requiring large numbers of modern forces."<sup>37</sup>

In light of the BCA-driven budget cuts, the first goal of this paper was to assess whether RAP can produce a sufficient capacity of aircrews with the capabilities needed to

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<sup>32</sup> DOD, *Quadrennial Defense Review*, V.

<sup>33</sup> DOD, *Quadrennial Defense Review*, VIII.

<sup>34</sup> DOD, *Quadrennial Defense Review*, VI.

<sup>35</sup> DOD, *Quadrennial Defense Review*, VI.

<sup>36</sup> DOD, *Quadrennial Defense Review*, 6.

<sup>37</sup> DOD, *Quadrennial Defense Review*, XIV.

execute the defense strategy enumerated by the DSG and the QDR. If RAP is unable to do so, the second goal of this paper was to present two alternative methods for producing effective combat airpower within the budget-constrained security environment. The last objective of this paper is to determine which model is most suited to the accomplishment of the security strategy discussed so far in this chapter.

### **Training Model Comparison**

The three training models presented in this paper are the Ready Aircrew Program (RAP), the Tiered-Readiness Program (TRP), and the Specialized-Readiness Program (SRP). An early assumption of this comparison is that funded RAP will meet its *minimum* training requirements. Today, under-funded RAP is not optimally producing airpower capabilities. To address the potential and actual conditions of RAP, this model comparison analysis will separate RAP into funded and under-funded RAP models.

Only one of the three models compared in this chapter, under-funded RAP, has hard-data to back-up its present-day performance. The remaining three models all represent ideal conceptions that this study cannot prove or disprove with current test or empirical data. As a result, the methodology used to compare the four training models is necessarily subjective in nature. Subjective analysis of proposed policy options is normal within military planning circles, however.

This paper adopts **components** of the *Joint Publication (JP) 5-0* Joint Operation Planning Process (JOPP) and the RAND Corporation's Risk Scorecard to present this model comparison in a format familiar to military professionals. The JP 5-0 COA Comparison process helps military decision-makers choose the policy and planning options that best meet military requirements established from validated military objectives.<sup>38</sup> The RAND Risk Scorecard assists military planners in the identification, definition, and assessment of risk within their strategic plans.<sup>39</sup>

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<sup>38</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-36.

<sup>39</sup> Frank Camm, et al., *Managing Risk in USAF Force Planning*, RAND Report MG-827-AF (Santa Monica, CA: RAND, 2007), 20.

The specific component of JOPP that this paper utilizes is step five, COA Comparison. JP 5-0 COA Comparison provides a simple three-part process for the evaluation of competing policy or planning options. This paper treats the ACC training-model options as competing COAs that address strategic requirements for combat airpower with varying degrees of capability and risk. The first part of COA Comparison is the identification of the key problem areas or objectives to address and the strengths and weaknesses of each proposed solution.<sup>40</sup> This study derives the key objectives and threats from the prevailing strategic themes and requirements presented in the current DSG and the QDR. The next part of COA Comparison is the rating of each COA against the established rating criteria.<sup>41</sup> To rate each training model, this study utilizes the JP 5-0 “non-weighted numerical comparison technique” that treats each rating category with equal importance and presents the given ratings in a decision-matrix format.<sup>42</sup> The final output of COA Comparison is a recommended policy choice and the corresponding rationale for that policy recommendation over the alternative options.<sup>43</sup>

This paper rates the ability of funded RAP, under-funded RAP, TRP, and SRP models to meet the key airpower requirements stated in the DSG and QDR. This study evaluates each model against seven rating criteria. In each rating category, a score of one through four is possible with the highest number being the best. The scores given reflect the relative advantages and disadvantages of each readiness model’s ability to enable ACC to organize, train, and deploy forces ready to accomplish their assigned tactical and operational tasks.

The relative advantages and disadvantages communicated by each score are a function of both capability and risk. For the purposes of this study, a model’s capability is the broad quantity of combatant-commander requirements that the forces trained through the model are likely to successfully accomplish. In particular, the forces produced by the model are likely to meet: (1) few COCOM requirements, (2) some

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<sup>40</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-36.

<sup>41</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-37.

<sup>42</sup> Joint Publication 5-0, *Joint Operation Planning*, G-1-G-3.

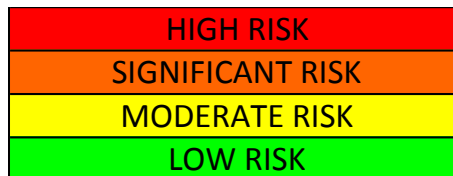
<sup>43</sup> Joint Publication 5-0, *Joint Operation Planning*, IV-37.

COCOM requirements, (3) most COCOM requirements, or (4) all COCOM requirements in the considered rating category.

The risk element of each score is an inverse of the assessed capability of the model's trained forces. This study adopts RAND's definition of risk as "the probability and magnitude of damage to national interests" resulting from a mismatch between policy, resources and the planned Air Force mission.<sup>44</sup> Based on this definition of risk, the capability of a model's forces intertwines with the model's ability to enable ACC's efforts to strike a proper balance between resources, readiness, and expected operational and tactical tasks. The more capable a combat air force is, the more likely it will be to accomplish its missions and avoid damage to national interests. In short, the more capable a force is at accomplishing a given task, the lower the amount of risk that political and military leaders will need to assume if they decide to exercise that military option.

Therefore, in this study, the risk of employing forces provided by a specific model decreases as the capability of those forces, to meet COCOM requirements, increases. In parallel with capability, the study assesses each model against one of four levels of risk as shown in Figure 6. In each rating definition, mission failure results in damage to strategic, operational, or tactical objectives. High-risk (1) means mission failure is likely to occur in almost all scenarios. Significant-risk (2) means mission failure is likely to occur in most scenarios. Moderate-risk (3) means that mission failure is likely to occur in some scenarios. Low-risk (4) means mission failure is likely to occur in few scenarios.

To summarize the possible ratings in the following non-weighted numerical comparison, a score of (1) means that forces are likely to meet few COCOM



**Figure 6: Example Risk Scale**

*Source: The Author's Original Work*

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<sup>44</sup> Frank Camm, et al., *Managing Risk in USAF Force Planning*, 19, 44.

requirements and their tasking will incur a high degree of risk. A score of (2) means that forces are likely to meet some COCOM requirements and their tasking will require a significant degree of risk. A score of (3) means that forces are likely to meet most COCOM requirements and their tasking will entail a moderate degree of risk. Lastly, a score of (4) means that forces are likely to meet all COCOM requirements and their tasking will impose a low degree of risk.

This comparison assesses each model's ability to provide ready and capable forces in sufficient quantity to meet generic COCOM objectives represented by each comparison criterion. The process of figuring each model score started with a review of the training-model summary in Table 8 (Appendix A). After reviewing the model summary, the next step was to review the description of the comparison category given below. Then, the author reviewed the scoring values detailed above. Lastly, the author scored each category based on the likelihood of each model to generate the right type and number of forces necessary to ensure the fulfillment of COCOM objectives while reducing mission risk.<sup>45</sup> The most important part of this study is not the scores themselves, but the rationale below that explains the relative advantages and disadvantages of each model.

The criteria chosen to compare the training models are: response time, capabilities spectrum, flexibility, cost, large-scale campaign risk, small-scale campaign risk, and multiple campaigns risk. *Response time* addresses the ability of the training model to produce aircrew ready to respond to a contingency with little to no notice and in sufficient quantity. *Capabilities spectrum* is the ability of the training model to produce, in sufficient quantity, air forces capable of accomplishing any mission within the range of military operations (ROMO). *Flexibility* refers to the ability of the training model to produce forces capable of fulfilling different mission requirements. This category

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<sup>45</sup> A key assumption in this author's assessment scores is that COCOM objectives directly support strategic objectives as described by the strategy-to-task process in Chapter 1. The non-weighted numerical comparison technique used in this study is a subjective rating process incorporating a certain degree of military judgment. The author acknowledges that another individual or staff could utilize different rating criteria and scoring methods to best shake out differences between the models. Anyone attempting to replicate this study must remember that any preferences implicit in the scoring originate from preferences stated in the DSG and QDR and not the preferences of the author.

considers flexibility of the forces at the initial deployment stage as well flexibility of the forces once in the AOR. Flexibility includes multiple sub-elements such as reversibility and tailoring ability. Reversibility is the ability to regenerate capabilities for future use.<sup>46</sup> Tailoring is the ability to right-size force capabilities for both the steady-state and contingency needs of Combatant Commanders.<sup>47</sup> The next comparison criterion, *cost*, refers to both the cost of training and the cost of employment under the given training model. The next three criteria, *large-scale campaign risk*, *small-scale campaign risk*, and *multiple campaigns risk* are focused primarily on the degree of risk imposed on each scenario resulting from the capabilities and capacity of the forces produced by each model.

The derived criteria in the following model comparison are from the prevalent strategic themes presented in both the DSG and the QDR in addition to public statements by the former Secretary of Defense Leon Panetta, the current Secretary of Defense Chuck Hagel, and the Service Chiefs. The key objectives of this comparative analysis are to uncover some of the strengths and weaknesses of each training model and to identify the model most likely to succeed in the production of combat-ready aircrew in today's tight fiscal environment.

The model with the overall highest effectiveness rating is the funded RAP model. The model with the second highest effectiveness rating is SRP. The third highest effectiveness rating belongs to TRP. The training model with the lowest effectiveness rating is under-funded RAP. Though previously mentioned, it is important to reiterate that the rating of each aircrew-training model was against the evaluation criteria not against one another. For this reason, multiple models have the same effectiveness ratings in the same category.

The score **totals** however are directly comparable values that assist a staff in identifying the most effective model for training combat aircrew. Perhaps more important than the scores, is understanding why each model was rated in the manner shown in Table 4. Chapters 1 and 2 already discussed some of the model strengths and

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<sup>46</sup> DOD, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, 6-7.

<sup>47</sup> DOD, *Quadrennial Defense Review*, 23.

weaknesses identified in Table 4. In such cases, this chapter will briefly summarize those points here to provide a consolidated comparison of the four models for the reader. In some of the categories, such as capabilities spectrum, flexibility, and cost, this chapter will offer some more concrete examples to better illuminate the practical differences between the models.

Against the criterion of *response time*, RAP, TRP, and SRP received “4” ratings. By definition, a funded RAP program possesses the *minimum* level of resources necessary to produce aircrew capable of executing all of their assigned missions. If aircrews are ready continuously to execute all of their assigned missions, then any or all

**Table 4. Model Comparison Matrix**

RATING SCALE 4=All COCOM Objectives/Low Risk 3=Most COCOM Objectives/Moderate Risk 2=Some COCOM Objectives/Significant Risk 1=Few COCOM Objectives/High Risk	FUNDED RAP	UNDER FUNDED RAP	TRP	SRP
Response Time	4	2	4	4
Spectrum of Capabilities	4	2	3	3
Reversibility/Fungibility	4	2	2	3
Cost	1	2	3	4
Risk - Large Scale Campaign	4	2	2	3
Risk - Small Scale Conflict	4	3	4	4
Risk - Multiple Conflicts	4	2	3	3
Ranking Total	25	15	21	24

*Source: The Author’s Original Work*

of the ACC squadrons, as appropriate, can handle a short-notice contingency deployment. Funded RAP represents the ideal form of full-spectrum readiness.

TRP produces rapid response capability by focusing resources on a sub-group of forces, Tier-1, to ensure that they are fully trained across the ROMO. Though the total

amount of Tier-1 forces available under TRP will be smaller than the force size produced by funded RAP, the response time will be just as short.

SRP produces rapid response capability by ensuring that at least one highly proficient ACC squadron is matched to each potential combat-mission type. SRP forces can respond to contingencies as quickly as funded RAP and TRP, but the total number of forces available for a given mission will be smallest with SRP. The total number of combat-ready air forces ready under SRP will be equivalent to fund RAP-trained forces and greater than TRP-trained forces.

Under-funded RAP received a “2” rating in *response time*. As illustrated by General Welsh’s testimony to the HASC, the severity of BCA-driven cuts, particularly when compounded by sequestration, forces Flying Hour Program reductions, the cancellation or curtailment of major exercises, the reduction of initial pilot production output, and the loss of readiness among many squadrons within months.<sup>48</sup> The ACC Commander, General Mike Hothel, further warned in 2013 that budget projections indicating insufficient flight hours, inadequate weapons system sustainment funding, and underfunded training ranges would force ACC to adopt a tiered-readiness training model.<sup>49</sup> Simply put, both Generals Welsh and Hothel are saying that under-funded RAP is incapable of providing an adequate amount of continuously ready combat air forces. Until Congress decides to fix the problem by fully funding RAP, ACC is inadequately postured to quickly deploy forces without accepting heightened levels of risk. In some secondary mission areas, stressed budgets may cause ACC to have zero units ready to deploy without first engaging in mission-focused pre-deployment training.

Against the *capability spectrum* criterion, funded RAP reaped a “4” rating, TRP and SRP garnered “3” ratings, and under-funded RAP received a “2” rating. Similar to the *response-time* criterion explanation of funded RAP, the RAP model’s purpose is to train aircrews for full-spectrum operations. Therefore, when completely resourced, RAP

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<sup>48</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 10.

<sup>49</sup> Amy McCulloch. “Tiered Readiness at ACC,” *Air Force Magazine*, 22 February 2013, <http://airforcemag.com/Features/organization/Pages/box022213tiered.aspx>.

will provide the greatest amount of capabilities not only at the aggregated ACC level but also at the individual unit level. TRP and SRP are both only slightly effective in the *capability spectrum* due to a lack of strategic depth.

While SRP and TRP can both produce forces capable of executing every combat mission, both SRP and TRP are limited in the total number of proficient forces per mission that they can provide. TRP is limited to the small group of forces assigned to Tier-1 until the Tier-2 and Tier-3 reinforcements can train to deploy. Even then, the reinforcements will have the time and funding to train in only a limited number of missions, leaving the shallow Tier-1 forces as the security blanket for full-spectrum operations. SRP distributes individual mission types amongst individual squadrons. Therefore, the number of squadrons assigned to continuous readiness in that mission, until other squadrons are cross-trained into the needed mission specialty, limits mission coverage.

Under-funded RAP has difficulty generating a wide spectrum of capabilities for two reasons. First, under funding precludes any single unit from reaching combat proficiency across all of its assignable missions. Second, mission-training selection ultimately occurs at the squadron level, allowing units to independently choose which missions to train towards, potentially allowing gaps in mission coverage to occur.

In RAP, each individual squadron is responsible for developing a tactical training plan that outlines how the squadron will prioritize and train for each RTM-assigned and priority-grouped mission. Localized training plans make sense from a resource standpoint due to the basing of squadrons in unique geographic areas throughout the world where their local training resources (ranges, airspace, adversary air, etc.) vary considerably.

The primary risk of decentralizing training plans, however, is that the squadrons may all prioritize training for the same missions at the same time when resources become limited. For example, if all of the F-15E squadrons compared the complexity and difficulty of training in each mission-type, AI/OCA-AO would likely be at the top of the pecking order. It would be a natural tendency for any Squadron Commander or Weapons Officer to make sure that the squadron was capable of executing its most difficult mission

because not being prepared for that mission would also carry the most risk to overall mission success.

Additionally, there is a widely held assumption in Air Force culture that being ready for the big fight means one is ready for the small fight. The problem is that if all the squadrons focus on the most difficult mission, who focuses on missions with unique demands such as CAS or Strike Coordination and Reconnaissance (SCAR)? When a contingency emerges that does not require AI/OCA-AO but instead requires aircrews that are proficient in CAS, what sort of additional deployment delays or risk will emerge? The further resources dwindle, the more it should be expected that commanders will gravitate their training focus to the most difficult mission on their plate at the expense of the other missions. The only moderating force to this trend will be the presence of a planned deployment tasking such as the rotations that were taking place to Afghanistan to provide CAS to NATO troops.

Versus the criterion of *flexibility*, funded RAP earned a “4” rating, SRP received a “3” rating, and under-funded RAP and TRP received “2” ratings. With funded RAP, each ACC combat unit will be capable of performing multiple mission types on any given ATO day because they trained in full-spectrum operations. As a result, a single unit or group of units can dynamically respond to emerging mission requirements throughout both the initial and subsequent stages of a conflict.

SRP provides flexibility in a different manner than RAP. SRP provides flexibility by enabling the tailored packaging of squadrons possessing different mission specialties to meet the particular requirements of the COCOM. If for example, a conflict or operation requires units capable of CAS and Interdiction, then only the units specializing in those skills will deploy in support of the operation. This allows units focused on other mission areas to remain in reserve to either respond to another short-notice contingency or begin cross training into CAS and Interdiction if a greater force structure needs to support those missions.

SRP's front-end flexibility comes at the cost of reduced flexibility of the air units once they deploy to the AOR. If each squadron specializes in only one or two missions, the squadrons will require replacement or augmentation by other specialized squadrons if

the combatant commander's mission focus changes, the character of the contingency quickly evolves, or the contingency lasts longer than initially expected. If greater numbers of forces, than initially available, are required in a particular mission area, SRP forces can more rapidly cross-train than either TRP-trained or under-funded RAP-trained forces. SRP forces are all CMR in at least one mission; therefore, the proficiency starting point for cross-mission training would likely be further along than a comparable tier-2 or tier-3 squadron managed under TRP or an under-funded RAP unit maintaining BMC status or shut down altogether.

Like funded RAP and SRP, TRP provides full-spectrum flexibility at the beginning of a conflict. Additionally, Tier-1 aircrews are full-spectrum trained so they will be highly adaptable to changing mission assignments within the AOR. The problem area for TRP's flexibility is in its Tier-2 and Tier-3 forces. Both Tier-2 and Tier-3 will use remaining funds after fulfilling Tier-1 resource requirements. It will be difficult under TRP to predict the degree of readiness possible at the lower tiers with the left over funds. Overall, it is unlikely that Tier-2 and Tier-3 units will be proficient in any mission area requiring these forces to receive pre-deployment training lasting for a considerable period of time just to get them proficient in one or two missions. In short, Tier-1 forces will be highly flexible at all phases of an operation but they will be limited in number. Depending on available resources, Tier-2 and Tier-3 forces may be incapable of supporting opening operations in a contingency. After training in the needed mission areas, the flexibility of Tier-2 and Tier-3 forces in the AOR will be less than Tier-1 forces.

The flexibility of under-funded RAP is difficult to predict. If a contingency arises with mission needs that happen to align with the mission areas focused on by the squadrons, or sufficient time is available to train before deploying, under-funded RAP can successfully respond to the COCOM's needs. If the contingency's mission needs do not conveniently align with the squadron's chosen training priorities, and a short response time is critical, under-funded RAP forces may be unable of supporting COCOM needs. Additionally, because under-funded RAP requires making choices about what missions to focus on and what missions to deemphasize, forces trained by under-funded RAP may be

incapable of effectively shifting missions once in theater. The last problem is that the under funding of RAP caused multiple combat units to completely stop flying for multiple months in FY13. If such a situation is ongoing during the flare-up of a conflict, the stood-down forces may be completely incapable of regaining combat readiness for an extended period, thus limiting the ability of the combat air force to effectively respond to COCOM needs.

Versus *large-scale campaign risk*, funded RAP reaped a “4” rating, SRP received a “3” rating, and both under-funded RAP and TRP earned “2” ratings. A funded RAP program enables the entire ACC combat air force to receive full-spectrum training. As a result, RAP trained forces represent the largest possible combat air force capable of performing the greatest variety of missions. Additionally, funded RAP maintains all of ACC’s forces in a continuously ready status that enables the deployment of air forces to occur in large numbers with minimal warning. To summarize, large-scale campaign risk will remain low with the funded RAP model because significant numbers of forces will always be ready to deploy at a moment’s notice to perform any mission(s) across the ROMO.

SRP-trained forces can provide a large aggregate force package at the beginning of a conflict but the individual units within the force package will be limited in their assignable missions. Over time, risk increases with SRP-trained forces because as the nature of the large campaign evolves, there may not be enough forces trained in a particular mission area to support the COCOM objectives. If all of the forces deploy to the large-scale operation, mission cross training must happen within the AOR, which incurs additional risk.

The TRP training model presents significant risks in large-scale campaigns for two reasons. First, while the Tier-1 forces are full-spectrum trained, they are small in number and therefore will have difficulty covering the numerous missions and sorties inherent in a large-campaign ATO. Second, Tier-2 and Tier-3 forces require training time before deploying, limiting strategic depth of the available combat air forces. If an adversary can operate in sufficient numbers and speed, it may overrun the Tier-1 air forces before Tier-2 and Tier-3 reinforcements can arrive in the AOR.

Under-funded RAP presents similar problems as TRP in the conduct of a large-scale campaign. Under-funded RAP may produce a small number of CMR squadrons for an initial response force but the overall response package will be inferior in capability and depth to funded RAP, TRP, and SRP forces. ACC should expect to experience similar problems with under-funded RAP as they would with TRP Tier-2 and Tier-3 units if BMC or even grounded units must quickly train to deploy. Two of the critical assumptions in the large-scale campaign scenario are that forces must arrive quickly and in large quantity. Under-funded RAP's inability to predictably address rapid and/or large-scale response scenarios, drive this model's significant level of risk rating.

Against *small-scale campaign risk*, funded RAP, TRP and SRP received "4" ratings while under-funded RAP received a "3" rating. The same strengths that apply to funded-RAP in large-scale campaigns likewise apply in small-scale campaigns thus allowing funded-RAP forces to execute them at a low level of risk. In a small campaign, TRP and SRP are both able to provide highly trained forces in sufficient numbers while the risks inherent in the lack TRP's and SRP's strategic depth evaporate causing the overall risk to become low. Under-funded RAP still manages to incur moderate risk in a small-scale campaign due to the inability of this model to ensure continuously ready forces in every possible mission area per the *flexibility* criterion discussion. Similar to both TRP and SRP, a lack of combat-ready strategic depth in a small-campaign scenario will not affect under-funded RAP. Time will be less critical in deployment of reinforcements enabling a BMC or grounded unit to accomplish needed pre-deployment training without negatively affecting ongoing ATO operations.

Versus *multiple conflicts risk*, funded RAP received a "4" rating, TRP and SRP earned "3" ratings, and under-funded RAP garnered a "2" rating. Similar to both large and small campaigns, funded RAP's ability to provide the largest possible force, ready to execute any mission within the ROMO, makes funded RAP a low-risk force-generation model for today's multiple-conflict defense strategy. TRP and SRP received moderate risk "3" ratings primarily because both models do retain the strategic depth in force structure necessary to deal with multiple campaigns. Both TRP and SRP are not low risk models in this scenario because both models may require additional pre-deployment

training time to make sure enough units are capable of executing the particular mission requirements of two different theaters. If rapid response time was not required, pre-deployment mission cross training could occur without effecting mission success and resulting in a possible risk rating of low “4”.

Under-funded RAP garnered a “2” rating because, while under-funded RAP may be able to assemble enough trained forces for a single small conflict, it may be especially difficult to maintain the force size needed to simultaneously fight two conflicts while training requirements are inadequately funded by Congress. If the combined effects of the BCA and sequestration are in effect when multiple conflicts erupt, the risk is especially problematic because under such tight fiscal conditions it is likely the majority of ACC combat units are either not flying or are flying at rates far below combat readiness levels, as occurred at the end of fiscal year 2013. This capacity problem, caused by under-funding RAP and other service’s readiness programs, is a key problem area identified in the testimony of General Welsh and the other service chiefs to the House Armed Services Committee in September 2013.<sup>50</sup> The bottom line is that the under-funded RAP’s difficulty in generating both a primary response force and a reserve response force simultaneously causes under-funded RAP to pose a significant risk to success in a multiple-conflict scenario, particularly if the rapid response envisioned by our defense strategy is required.

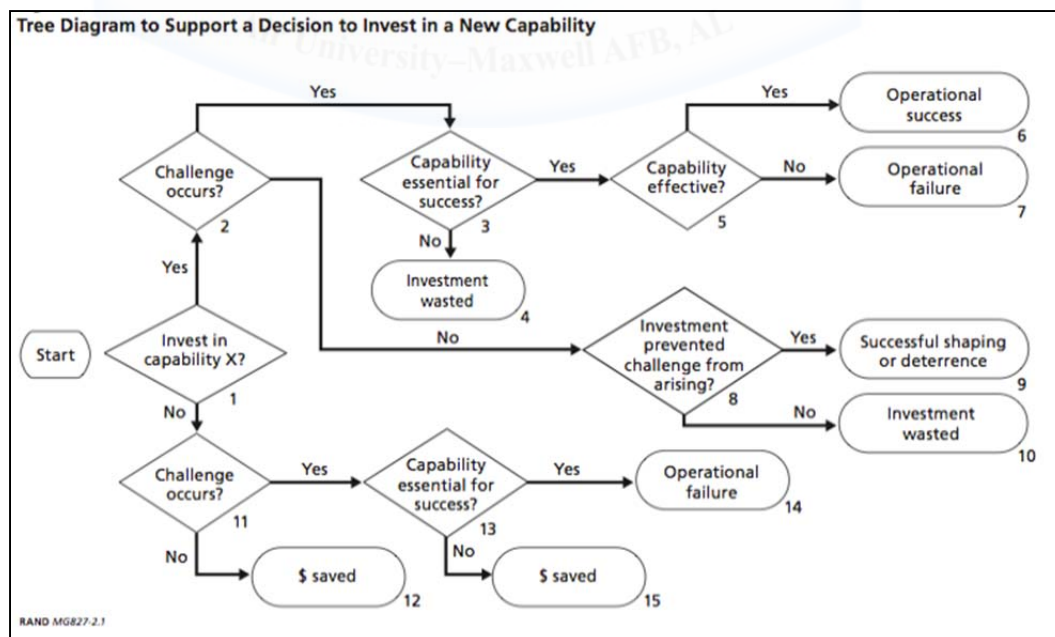
Finally, against the *cost* criterion, SRP earned a “4” rating, TRP received a “3” rating, under-funded RAP received a “2” rating and funded RAP closed with a “1” rating. With tremendous capability, also comes high cost. The funded RAP model received a “1” rating because while funded RAP maximizes capability from both ACC aircraft and ACC aircrews, it also has high funding requirements that, in today’s budget environment, are simply unfeasible to maintain. Continuous full-spectrum readiness requires both constant training of the aircrews and unceasing maintenance of the aircraft. While there is certainly a point of overtraining at which crews and aircraft stress to the breaking point, such a condition rarely occurs. Predictable and continuous training not only benefits the

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<sup>50</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 10, 11, 34.

aircrews, but also benefits the often-overlooked maintenance and support crews that enable the aircraft to fly and fight. Aircraft technicians, munitions troops, and weapons loaders all learn how to operate efficiently under the stress of the daily flying schedule during which jets must take off on-time, or else valuable range time, air refueling tankers, or other time-sensitive training opportunities will be lost. Though ground-support personnel can practice their craft and perform upgrade training on static aircraft or maintenance trainers, it is the element of *time* and the underlying feeling that the team is relying on your execution to make the mission succeed *right now* that cannot be replicated by trainers, simulators, or parked airplanes.

From a cost-focused standpoint, funded RAP is terribly inefficient in times of peace, but efficient in times of conflict. While in-garrison, RAP logic is that aircrews and the associated support personnel must train for everything to be ready for anything. This is not a problem when resources are so plentiful that training for everything doesn't negatively impact other defense needs such as modernizing or taking care of personnel needs. Today's reality is that pouring resources into something that does not get used may be wasteful. Figure 7 below, from the RAND Corporation, illustrates the interplay



**Figure 7. RAND Investment and Risk Diagram**

Source: Frank Camm, et al., *Managing Risk in USAF Force Planning*

between investment and risk in a resource-constrained environment.<sup>51</sup> It is comforting to know that an F-15E unit can perform any mission asked of it at any time, but what if that unit is only ever tasked to perform one or two out of the ten missions it is tasked to train for in the F-15E RTM?<sup>52</sup> This is a dilemma for defense strategists and planners – every dollar spent on training not used in combat is a dollar not spent on other vital defense needs. Certainly, the flipside to the cost argument is the risk argument.

Saving money, by only spending training dollars on the most probable missions requires a certain degree of faith in the institution's ability to accurately predict the future security environment. Unfortunately, it is widely understood amongst military historians that nations rarely get the wars they expect. For a global power like the United States, this is a particularly perplexing problem because the nation's global presence can invite trouble from anywhere, at any time, in any number of forms. For these reasons, the idea is entrenched in military leadership that to mitigate security risk as much as possible, our military forces in garrison must be ready for everything all of the time.<sup>53</sup>

In contrast to peacetime conditions, funded RAP produces excellent efficiencies during times of conflict. As highlighted in some of the criterion discussion above, a huge benefit reaped by a funded, RAP-trained squadron is that once in the AOR, it can shift seamlessly between missions per the needs of the combatant commander. A single unit, capable of performing multiple missions, is not just efficient from a tasking standpoint, it is also cheaper to deploy, cheaper to sustain, and requires less physical space for operations. For example, from the deployment and sustainment perspectives, a single unit that can execute four different missions can deploy and be sustained at half the cost required under the SRP construct which requires two to three squadrons to deploy to support the same four missions. Of course, this efficiency only materializes if a conflict actually occurs, the squadron is required to perform more than one or two missions at the same time, and the required contingency-response time is too quick to allow for pre-deployment cross-training of other units.

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<sup>51</sup> Frank Camm, et al., *Managing Risk in USAF Force Planning*, 9.

<sup>52</sup> ACC/A3T, *F-15E Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 4-5.

<sup>53</sup> House, *Sequestration in Fiscal 2014 and Military Perspectives: Hearings before the Committee on Armed Services*, 113th Cong., 1st sess., 11, 23, 27, 29, 35.

Concerning physical space, both the DSG and QDR painted a security environment requiring US forces to deploy into the trouble spots. For air force combat units, this means that the jets need an airfield from which to operate. In some parts of the world, such as the Asian Pacific, the geography of the islands limits the numbers of suitable airbases and their size. Therefore, it is much more desirable to have a single squadron of sixteen to eighteen aircraft capable of performing the same roles as two to three squadrons, totaling thirty-two to fifty-four aircraft, required by SRP.

In short, funded RAP provides the most combat capability but at the highest cost. When funded, RAP expenditures are less efficient in times of peace but potentially more efficient in times of war than the alternate training models. The fundamental benefit of funded RAP is the minimization of risk in light of America's role as a global power and the uncertain nature of the conflicts that come with such a role. Despite these obvious security advantages, the fiscal measures imposed by the BCA, particularly when the sequestration provisions are activated, coupled with a lack of consensus in Congress to reverse these measures, mean that funded RAP is an unfeasible model that cannot be relied upon by ACC to produce ready and capable combat air forces.

Though under-funded RAP received a rating of "2", it is difficult to give under-funded RAP a score at all because under-funded RAP is a condition of fiscal neglect, not a planned training or operational model. Under-funded RAP received a "2" because it is a cheaper means of providing some measure of combat capability. As explained in the analysis of the risk-criteria ratings, under-funded RAP drives up risk in every conceivable security scenario as compared to RAP, TRP, and SRP. Though less costly than RAP, under-funded RAP is not a viable model for the fulfillment of the nation's defense strategy particularly as the capabilities of America's potential adversaries seemingly improve daily.

Tiered-readiness is a concept designed to maintain a credible full-spectrum contingency-response capability within the reduced defense-spending levels driven by the BCA. Table 5 below illustrates how TRP aims to provide full-spectrum readiness with the same amount of money received in an under-funded RAP scenario. This example begins with a notional force of twelve combat squadrons requiring \$124 million in

funding to meet 100 percent of their full-spectrum readiness requirements. If today's real-world percentage of funded requirements applies to the \$124 million budget request, then the amount received for readiness training is \$74 million.

At this level of funding, ACC can choose to fully fund some of its units or it can evenly spread the money across the twelve squadrons and provide some guidance on where to spend the money. The left side of Table 5 depicts a selection of the even distribution plan, referred to as under-funded RAP in this paper. If ACC chooses to fund

**Table 5. Under-Funded RAP Versus TRP**

Qty of Squadrons	MWS	100% Req (in \$mil)	60% Funded (in \$mil)		Qty of SQ	MWS	\$ mil		Qty of SQ	MWS	\$ mil (19%)
2	F-15C	20	12	Tier 1	1	F-15C	10	Tier 2	1	F-15C	2
2	F-15E	20	12		1	F-15E	10		1	F-15E	2
4	F-16	32	19		2	F-16	16		2	F-16	4
2	B-1	40	24		1	B-1	20		1	B-1	3
2	A-10	12	7		1	A-10	6		1	A-10	1
	TOTAL	124	74			TOTAL	62			TOTAL	12
RAP Even Spread					Tier 1 Full ROMO				TIER 2 Reserve Forces		

*Source: The Author's Original Work*

some of the units to 100 percent of their requirements, then the resource distribution looks like the tiered-readiness depiction on the right side of Table 5. In this simplified example, half of the squadrons, of each aircraft type, will train in missions across the entire ROMO. The other half of the squadrons will do the best they can with the money left over.

This simplified example quickly shows how devastating TRP can be to the Tier 2 reserve forces. Using the same cost factors for 100 percent of training requirements shown in the under-funded RAP example, the Tier 1 squadrons consume \$62 million of the \$74 million appropriated by the notional Congress. This amount is 84 percent of the available funds used to reach 100 percent combat readiness in half of the force structure. The remaining half of the force-structure elements only have \$12 million amongst themselves to attain the highest degree of readiness they can. One can rapidly surmise that the Tier 2 forces will be in a state far below combat readiness.

From a cost standpoint, TRP shares some of the same inefficiency problems as funded RAP while in peacetime. ACC can generate a small, highly ready force, but at the cost of a badly depleted reserve force. In times of conflict, TRP will enjoy the same efficiency advantages as funded RAP if the contingency remains small and short. If the air combat reinforcements are required to ensure mission success, the cost of reversing the mission atrophy may be significantly more than if they maintained a higher level of steady-state readiness all along. Of course, this additional cost only emerges if the contingency is larger or longer than Tier 1 forces can handle.

SRP is an attempt to optimize capabilities, responsiveness, and strategic depth while coping with the shrinking budgets under the BCA. SRP achieves these objectives through utilization of a mission-based distribution of resources instead of an equal distribution. Additionally, SRP fully subscribes to the concept of package-tailoring enumerated in the QDR.<sup>54</sup> With the same \$74 million used in the above TRP example, SRP distributes the funds in accordance to the resources required to train the squadron to a CMR level in the one or two missions assigned by ACC. An assumption in this model is that different mission types require different amounts of training, and hence cost, to become proficient in the mission. This assumption is consistent with logic in the current RTMs. The current B-1B RTM for instance, requires inexperienced CMR B-1B aircrews

**Table 6: Examples of SRP Capabilities**

Qty of SQ	MWS	MSN	\$ mil		Qty of SQ	MWS	MSN	\$ mil		Qty of SQ	MWS	MSN	\$ mil
1	B-1	CAS	10	PKG 1 (SAT/INT)	1	B-1	SAT	14	PKG 2 (CAS)	1	B-1	CAS	10
1	B-1	SAT	14		2	F-15C	OCA	12		2	A-10	CAS	7
2	F-15C	OCA	12				DCA					CSAR	
		DCA			1	F-15E	INT	7		1	F-15E	CAS	5
1	F-15E	CAS	5		2	F-16	INT	10		2	F-15C	OCA	12
1	F-15E	INT	7		2	F-16	SEAD	9				DCA	
2	F-16	INT	10		1	A-10	CSAR	3					
2	F-16	SEAD	9										
2	A-10	CAS	7										
		CSAR											
TOTAL			74	TOTAL			55	TOTAL			34		

Specialized Capabilities Packages

*Source: The Author's Original Work*

<sup>54</sup> DOD, *Quadrennial Defense Review*, 23.

to fly twenty-four of their forty-eight annual sorties in SA/AI/OCA-AO and only ten sorties in CAS.<sup>55</sup> The weighting is due to differences in mission complexity, and the same distribution pattern applies to B-1B simulator requirements.<sup>56</sup> The specific costs in the table are estimates based on the complexity of each mission relative to one another.

The key takeaways from Table 6 are that with the same \$74 million in O&M funds used in TRP, SRP keeps all of the units in a useful state of readiness while in-garrison. If more interdiction squadrons are needed for a particular contingency, forces that are at least CMR in one mission type should retain a greater degree of reversibility than a comparable Tier-2 unit under TRP. Additionally, SRP packaging allows more flexible tailoring of capabilities based on the needs of the combatant commander. Table 2 compares an interdiction/surface-attack package and a close-air-support package to show how different capabilities, grouped together like UTCs, can provide sufficient capabilities with some measure of efficiency. The ability of the SRP model to provide full-spectrum capabilities, maintain a high degree of reversibility, and provide package tailoring led to its rating of “3”.

## Summary

The major difference between today’s RAP model and the alternative models of TRP and SRP, is that the former model is designed to optimize airpower capabilities irrespective of the fiscal environment, while the latter two models are designed to maximize capabilities within the limits of the budget. The differences in logic may seem small on the surface, but the impacts are significant.

The “requirements camp” tends to argue that military planners should first develop requirements then worry about resources later. If resources are plentiful, there is little incentive to curtail requirements or critically analyze the connection of each requirement to the strategy. This paper argues that the historical economic strength of the American economy, coupled with large contingency-related funding increases in the

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<sup>55</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 1 October 2013, 4.

<sup>56</sup> ACC/A3T, *B-1 Ready Aircrew Program (RAP) Tasking Memorandum (AS-14)*, 4.

early 2000s, created a culture of airpower planners that pursued bigger-is-better approaches to both training and operations.

Ultimately, RAP cannot operate in a vacuum, but instead must produce CMR aircrew capable of meeting present-day security requirements within present-day resources. The general structure of RAP has changed little since its inception in 1996, yet the strategic environment has changed considerably. As the strategic environment changes, it logically follows that changes to training methods may be necessary to ensure that the aircrews produced under RAP still meet the needs of the combatant commander.

Despite its static nature, the model-comparison analysis in this chapter indicates that, when fully resourced, RAP is still a highly effective training model for developing full-spectrum capabilities and minimizing risk in the face of a highly unpredictable security environment. RAP's main obstacle is that with the BCA in effect, full RAP funding is highly unlikely over the next decade covered by the DSG and QDR.

If the Air Force is to preserve its ability to generate a combat force capable of flying, fighting and winning in the strategic environment posed by the DSG and the QDR, a new and innovative approach to training combat aircrews must be adopted immediately. TRP provides an immediately executable model that meets strategic requirements calling for air forces capable of rapid-response and full-spectrum operations. The administration of TRP requires few changes to the current budgeting, mission tasking, or reporting processes developed for RAP. The major risk of TRP is the potentially catastrophic consequences to the readiness and reversibility of the Tier-2 and Tier-3 forces. If Tier-2 and Tier-3 force capabilities degrade too much, American airpower may be woefully prepared for the unlikely, but resource-intensive, major combat operation.

Given the fiscally limited environment and the dynamic and unpredictable nature of the next decade's projected security environment, the SRP training model provides the best balance of capabilities, flexibility, and cost savings for the combat air force. Rapid implementation of SRP is possible with minor changes to the budget, mission tasking, and reporting processes. Perhaps the biggest change needed is a shift in mindset in basing training requirements on minimums to basing training requirements on averages.

The ultimate goal of this mindset shift is to reprioritize flying proficiency over flying rate while institutionalizing resource flexibility throughout the entire training process from the budget down to the individual sortie.

The time for ACC to adopt a new training model is now. Perhaps the Chairman of the Joint Chiefs, General Martin Dempsey says it best, “Innovation is the military imperative and the leadership opportunity of this generation. It’s a fleeting opportunity.”<sup>57</sup>



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<sup>57</sup> DOD, *Quadrennial Defense Review*, 64.

## Conclusions

This research paper focuses on Air Combat Command's Ready Aircrew Program (RAP) and its seeming inability to produce a sufficient quantity of full-spectrum-capable, combat-mission-ready aircrews because of defense budget cuts driven by the 2011 Budget Control Act. ACC squadrons report aircrew as combat mission ready if the aircrew accomplished the training sorties, simulators, and flying currency events within the timelines required by the RAP Tasking Memorandum (RTM). Flying-hour-cost increases, aircraft-readiness-rate reductions, and Operations-and-Maintenance (O&M) budget reductions combine to create a limited resource environment in which it is impossible for all of the pilots in a squadron to train at the minimum rate specified by the RTM for CMR status.

If a squadron is unable to maintain the required CMR level, it becomes combat non-effective. Over time, a lack of consistent CMR-level training results in the squadron becoming a hollow force. A hollow force describes a squadron, or other military organization that is unable to execute the missions assigned to it by that squadron's Designed Operational Capability (DOC) Statement, Mission Capability Statement (MISCAP) or RTM at an acceptable level of political or mission risk due to deficiencies in readiness and sustainment.<sup>1</sup> If combat squadrons are unable to execute their missions within an acceptable level of risk, then the United States will experience severe difficulties executing the elements of the national defense strategy relying on the military instrument of power. Either increasing existing resources or changing the way existing resources are used provides a solution to this strategy-capability mismatch.

The potentially significant consequences to the nation, resulting from a mismatch between the ready capabilities of combat airpower and America's defense strategy inspired the central research question in this paper. Within current and projected funding of the Air Force O&M budget, is RAP executable and is it able to produce combat-ready

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<sup>1</sup> A9A, Air Force, Measuring Hollow Force using the Risk Assessment Framework (FOUO), staff study, 1 October 2012.

aircrews capable of supporting the defense strategy presented in the 2012 Defense Strategic Guidance and the 2014 Quadrennial Defense Review?

In light of the congressionally imposed, decade-long impact of the 2011 BCA and its unpredictable sequestration provisions, the Air Force cannot reasonably expect increased funding to solve the expanding ACC combat-readiness deficit. To counter under-resourcing, ACC must implement either a new or a more efficient training model, or political and military leaders must accept a reduced state of combat readiness as the new Air Force standard. This paper argues that the implementation of an alternative readiness model, capable of balancing resource limitations and strategic requirements, can keep the Air Force out of such an untenable position.

This paper began answering the central research question by explaining RAP's organizational structure, its underlying logic, and its performance in real-world conditions. The Air Force first implemented RAP in 1997 in response to shrinking resources resulting from the post-Cold War defense draw-down implemented under President Bill Clinton's administration.<sup>2</sup> RAP replaced ACC's Graduated Combat Capability (GCC) training program to improve the linkage of training to readiness indicators, more accurately define training requirements, better justify flight hours, and improve ACC's ability to show the impacts of flying-hour reductions, incorrect manning, and high operational tempo on overall mission readiness.<sup>3</sup> After its introduction, RAP successfully produced ready combat air forces that achieved operational and tactical victories in Operations Allied Force (1999), Enduring Freedom (2001), Iraqi Freedom (2003), and Odyssey Dawn (2012).

Beginning in FY06, the delta between RAP requirements and RAP funding began expanding, reaching a ten percent deficit by the end of 2010.<sup>4</sup> After passage of the 2011 BCA, RAP funding plunged to approximately seventy-eight percent of requirements by the end of 2011 and then bottomed out at less than sixty-five percent of requirements in 2013 when the BCA's sequestration provisions activated in the latter half of the fiscal

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<sup>2</sup> History, Air Combat Command, 1997, 95.

<sup>3</sup> History, Air Combat Command, 1997, 95.

<sup>4</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

year.<sup>5</sup> As long as the sequestration provisions of the BCA do not reactivate, ACC projects that RAP funding will recover to ninety percent of requirements by FY18. In the meantime, RAP-trained units will continue to fall short of training requirements, creating holes in ACC's ability to provide combatant commanders the combat air forces needed to rapidly meet the diverse requirements of today's defense strategy.

With no budget relief in sight for RAP, Air Force combat readiness will continue to suffer unless ACC boldly pursues the development of new and innovative solutions to the production of combat-ready aircrews. In an effort to inspire the development of creative training solutions, this paper presents two new training models, the Tiered-Readiness Program (TRP) and the Specialized-Readiness Program (SRP). Unlike RAP, which aims to train all of ACC's readiness aircrews for full-spectrum, rapid-response operations, TRP and SRP more narrowly tailor force capabilities in an attempt to meet strategic needs to the maximum extent possible while operating within the resource-restricted security environment likely to last the next five to ten years.

TRP provides rapid-response, full-spectrum capability by dividing the combat air forces into separate tiers that ACC then resources at the level appropriate for the mission tasks of each tier. The top tier of forces, Tier 1, is composed of a cross section of units that ACC resources one hundred percent to serve as a contingency-response force. With full resourcing, Tier 1 units can fulfill DSG requirements for rapid-response air capabilities across the entire range of military operations. ACC divides the remaining units into Tier 2 and Tier 3 forces that function as strategic reserves and train with the resources remaining after Tier 1 forces are fully resourced. As of FY15, the US Army will officially adopt the tiered-readiness model, and the US Navy currently uses a tiered-readiness model centered on the cycle of Carrier Strike Group deployment and reconstitution. The US Air Force currently has no publically released plans to pursue a tiered-readiness model for its combat air forces.

SRP approaches the strategic requirement for rapid-response, full-spectrum air capabilities by adopting the current Air Force logistics process of UTC packaging to

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<sup>5</sup> A3TO, Air Combat Command, Combat Air Forces Degraded Readiness, staff study, 26 June 2013.

create an Air Contingency Force than can be flexibly constructed by the AEF Center. Air combat packages can be tailored by the AEF Center to contain any regional crisis while providing a deeper force structure and reducing the time needed to train follow-on air forces in the event of a prolonged or expanded conflict. The primary goal of SRP is to provide air forces that are highly proficient, or specialized, in a limited number of missions. SRP logic assumes that full-spectrum readiness for every squadron, all of the time, is no longer feasible under current and projected cuts to the Air Force's Operating Forces (BA-01) budget activity line.<sup>6</sup>

An additional assumption held by SRP logic is that the skills involved in execution of one mission are not completely divorced from the skills needed for another mission. Many skills such as radio communications, weapons switchology, and weapons employment overlap between missions, thus allowing a cross-mission spin-up to focus mainly on differences-training. Difference-training for in-garrison reinforcements is likely much quicker and cheaper than training for Tier 2 and Tier 3 units that may require a significant training period to become CMR. Lastly, to improve ACC's ability to provide ready air forces, a key goal of SRP is to empower squadron commanders with a greater ability to shift allocated resources among individual personnel based on the commander's assessment of individual proficiency levels. SRP improves flexibility by replacing the current RAP construct of *minimum* training requirements with the construct of *average* training requirements to formally institutionalize a focus on training proficiency over training quantity.

After presenting the RAP, TRP, and SRP training models, this paper utilized a non-weighted numerical comparison technique from the *Joint Publication (JP) 5-0 COA Comparison* process to analyze the ability of the funded RAP, under-funded RAP, TRP, and SRP models to meet the key airpower requirements of today's national defense strategy. The non-weighted numerical comparison uses four possible ratings that consider force capabilities and risk to mission success. A score of (1) means that forces

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<sup>6</sup> Department of the Air Force, *Fiscal Year (FY) 2014 Budget Estimates Operation and Maintenance, Air Force, Volume 1*, April 2013, 7.

are likely to meet few COCOM requirements and their tasking will incur a high degree of risk. A score of (2) means that forces are likely to meet some COCOM requirements and their tasking will require a significant degree of risk. A score of (3) means that forces are likely to meet most COCOM requirements and their tasking will entail a moderate degree of risk. Lastly, a score of (4) means that forces are likely to meet all COCOM requirements and their tasking will impose a low degree of risk.

**Table 7. Model Comparison Matrix**

RATING SCALE 4=All COCOM Objectives/Low Risk 3=Most COCOM Objectives/Moderate Risk 2=Some COCOM Objectives/Significant Risk 1=Few COCOM Objectives/High Risk	FUNDED RAP	UNDER FUNDED RAP	TRP	SRP
Response Time	4	2	4	4
Spectrum of Capabilities	4	2	3	3
Reversibility/Fungibility	4	2	2	3
Cost	1	2	3	4
Risk - Large Scale Campaign	4	2	2	3
Risk - Small Scale Conflict	4	3	4	4
Risk - Multiple Conflicts	4	2	3	3
Ranking Total	25	15	21	24

*Source: The Author's Original Work*

Based on the most prevalent and airpower-appropriate themes in the 2012 DSG and 2104 QDR, the critical criteria chosen for comparison of the training models were: response time, capabilities spectrum, flexibility, cost, large-scale campaign risk, small-scale campaign risk, and multiple-campaigns risk. *Response time* addresses the ability of the training model to produce aircrew ready to respond to a contingency with little to no notice and in sufficient quantity. *Capabilities spectrum* is the ability of the training

model to produce, in sufficient quantity, air forces capable of accomplishing any mission within the range of military operations (ROMO).

*Flexibility* refers to the ability of the training model to produce forces capable of fulfilling different mission requirements. This category considers flexibility of the forces at the initial deployment stage as well flexibility of the forces once in the AOR. Flexibility includes multiple sub-elements such as reversibility and tailoring ability. Reversibility is the ability to regenerate capabilities for future use.<sup>7</sup> Tailoring is the ability to right-size force capabilities for both the steady state and contingency needs of Combatant Commanders.<sup>8</sup>

The next comparison criterion, *cost*, refers to both the cost of training and the cost of employment under the given training model. The next three criteria, *large-scale campaign risk*, *small-scale campaign risk*, and *multiple campaigns risk* all consider the degree of risk imposed on each scenario resulting from the capabilities and capacity of the forces produced by each model.

As shown in Table 7, the model with the overall highest effectiveness rating is funded RAP. The model with the second highest effectiveness rating is SRP. The third highest effectiveness rating belongs to TRP. The training model with the lowest effectiveness rating is under-funded RAP. It is important to note that this study rated each model against its ability to fulfill defense strategy requirements and not directly against other models.

The model-comparison process produced four broad conclusions about the ability of each training model to produce forces capable of meeting America's defense-strategy requirements. First, a funded Ready Aircrew Program is the most effective model for training combat aircrews to execute DSG and QDR strategic objectives at the lowest level of risk. Unfortunately, BCA-driven defense-budget cuts make implementation of a funded RAP model unfeasible. Through not directly part of the model-comparison

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<sup>7</sup> Department of Defense (DOD), *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, January 2012, 6-7.

<sup>8</sup> Department of Defense (DOD), *Quadrennial Defense Review*. March 2014, 23.

process, feasibility is a critical element in the selection of a course of action or organizational plan.

A feasible plan, COA, or training model is one that military forces can execute within “established time, space, and resource limitations.”<sup>9</sup> Normally, in the *Joint Publication 5-0 COA Comparison Process*, strategic planners eliminate the unfeasible COAs before conducting the actual comparison because it is a waste of time to rate a plan or model that the planners cannot implement, no matter how good the plan or model may be conceptually. In the case of this paper’s analysis, the funded RAP program represents the status-quo model that the Air Force readiness reports and status slides are based upon. It is therefore important to assess whether the ideal RAP model still provides a valid standard of training and readiness against today’s defense strategy, even if it is not feasible to execute in its ideal form at this time.

The second conclusion from the model analysis is that an under-funded Ready Aircrew Program is the least effective training model in today's budget-constrained security environment. With few ACC units able to attain a full state of readiness in any mission, rapid responses to unforeseen contingencies will require acceptance of higher levels of risk, or else the response times will extend to allow for the pre-deployment training necessary to reduce risk.

Under-funded RAP assumes the greatest risks of TRP and SRP. Like TRP, under-funded RAP is incapable of assuring a dependable force of moderate to well-trained air reserves after the quick-response force utilizes the most well-trained units. Under-funded RAP represents today’s status quo. Clearly, from ACC’s own reports, an under-funded RAP model falls well short of providing air forces with the capabilities and depth needed to handle today’s strategic defense requirements.

The third model-analysis conclusion is that TRP provides a rapidly deployable and highly flexible contingency response force at moderate cost and with low short-term risk. TRP provides the least amount of strategic depth and as a result incurs the most risk in a large long-term conflict scenario or in a multiple-conflict scenario. The strengths

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<sup>9</sup> Joint Publication 5-0, *Joint Operation Planning*, 11 Aug 2011, IV-24.

and weaknesses of TRP are very similar to the strengths and weaknesses resulting from a smaller and leaner force that is “more agile, more flexible, ready to deploy quickly, innovative, and technologically advanced.”<sup>10</sup> Senior Air Force leaders currently oppose TRP while supporting the small-but-capable force construct though the logical and practical ends are nearly identical. TRP still holds an advantage over the smaller-but-more-capable-force construct in a major-combat-operations scenario because, while the TRP reserve tiers may not be in a ready condition, at least with TRP the Air Force still possess forces that it can reconstitute. Once the Air Forces downsizes to a fully sustainable size, the cut forces are forever gone, posing an element of risk that ACC cannot easily address in a large and fast-moving conflict.

The final broad conclusion from the model analysis is that the Specialized Readiness Program is the most effective combat aircrew-training model in today's budget-driven security environment. SRP preserves the rapid-response capabilities inherent in combat airpower while minimizing costs and short-term risk. Use of SRP entails accepting higher risk in rapid large-scale conflicts that demand large quantities of multi-role forces to cover all of the ATO mission requirements.

By keeping the entire ACC force proficient in at least one mission, SRP provides a high degree of reversibility and preserves the ability to cross-train reserve forces in as-needed missions as quickly as possible. The tailoring of initial-response SRP packages is simpler and potentially less costly than the tailoring of comparable RAP and TRP packages due to the wide selection of immediately available specialized platforms. SRP forces are less flexible than RAP and TRP forces once deployed to the AOR. Additionally, the logistical footprint of SRP forces is larger than the logistical footprint of TRP and funded RAP forces if the contingency requires simultaneous coverage of numerous mission types early in the ATO cycle.

ACC can immediately implement either TRP or SRP to ensure that America's combat air forces are ready to support the nation's defense strategy. If ACC ignores the

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<sup>10</sup> Leon E. Panetta, “Statement on Defense Strategic Guidance,” *U.S. Department of Defense Press Operations*, 5 January 2012, <http://defense.gov/speeches/speech.aspx?speechid=1643>.

calls of the DSG and QDR to adopt more innovative approaches in the provision of ready forces to the combatant commanders, then ACC readiness rates will continue to fall, and missions deemed less important or less risky will potentially go completely uncovered. Strategic planners must learn how to operate in a security environment in which limited resources do factor into the creation of strategy. In his Chairman's Assessment of the QDR, General Martin E. Dempsey warns about the implications of failing to acknowledge our resource limitations and the need to change our thinking about creating readiness in the military:

The smaller and less capable military outlined in the QDR makes meeting these obligations more difficult. Most of our platforms and equipment will be older, and our advantages in some domains will have eroded. Our loss of depth across the force could reduce our ability to intimidate opponents from escalating conflict. Nations and non-state actors who have become accustomed to our presence could begin to act differently, often in harmful ways. Moreover, many of our most capable allies will lose key capabilities. The situation will be exacerbated given our current readiness concerns, which will worsen over the next 3 to 4 years.<sup>11</sup>

To mitigate the airpower elements of the numerous vulnerabilities and risks that General Dempsey highlights, this paper recommends that ACC consider the following changes to its aircrew readiness program: First, implement SRP as soon as possible to preserve rapid-response, full-spectrum readiness if the O&M budget forecast remains below RAP minimum requirements. Second, irrespective of the current financial situation, ACC should change RAP from a model based on training *minimums* to a model based on training *averages* to institutionalize resource flexibility into the readiness-training model. Third, ACC should conduct additional studies on mission skill reversibility to determine precisely how long it will take to regain combat-quality skills if ACC allows such skills to atrophy through either resource planning or under resourcing. Fourth, ACC should consider retooling its internal readiness reports to ensure that the reports more directly delineate what airpower is capable of doing instead of focusing on what resources airpower is not receiving. Lastly, ACC needs improved high-risk-

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<sup>11</sup> DOD, *Quadrennial Defense Review*, 64.

scenario planning in case political leaders fail to internalize, or simply do not care about, the strategic, operational, and tactical risks born of continuous under-resourcing of the combat air forces. The Air Force must continue to honestly communicate the impacts of under-funding the services, relative to the published defense strategy, but the Air Force must be ready with feasible and executable plans in case the testimony of the our military leaders falls on deaf ears.

When resources are plenty, RAP is a highly effective, and combat-proven readiness model that provides forces capable of executing the widest range of missions at the lowest levels of risk. RAP allows ACC to reap the most value from its multi-role aircraft by training its aircrew in a multi-role fashion. The present challenge is that both initially training aircrew to multiple missions, and then maintaining the acquired skills is tremendously expensive and time-consuming. Lacking resources and potentially time, the Air Force must pursue more innovative ways of training and providing combat air forces. Both the Tiered-Readiness Program and the Specialized-Readiness Program are budget-driven training models that prioritize a rapid-contingency-response capability, of limited scale, over the slow deployment of a large-scale force for the execution of a major conventional war. While TRP and SRP incur greater risks than funded RAP, the risks they impart pale in comparison to the risks generated by ACC's inability to reliably produce combat-ready aircrews through its under-funded RAP program.

Given a fiscally limited environment and the dynamic and unpredictable nature of the next decade's projected security environment, the SRP training model provides the best balance of capabilities, flexibility, and cost savings for the combat air force. Rapid implementation of SRP by ACC is possible with minor changes to ACC budget, mission tasking, and reporting processes. Whether ACC adopts SRP or retains RAP as its preferred training model, a critically needed change is a shift in mindset from training requirements based on *minimums* to training requirements based on *averages*. The ultimate goal of this mindset shift is to reprioritize flying proficiency over flying rate while institutionalizing resource flexibility throughout the entire training process from the budget down to the individual sortie.

Readiness is critical to the Air Force's ability to "fly, fight, and win in air, space, and cyberspace". Readiness forms the foundation of every capability and asymmetric advantage espoused in Air Force doctrine.<sup>12</sup> In other words, readiness is not simply a means for the execution of national strategy; it is an essential ingredient to the viability of the Air Force itself. It is therefore essential for those leading and executing the ACC RAP process to approach its challenges with creative and bold solutions, such as the alternate models presented in this paper, and seize the opportunity to ensure that the Air Force will retain its position as the world's dominant air power.



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<sup>12</sup> Department of the Air Force, *Fiscal Year (FY) 2014 Budget Estimates Operation and Maintenance, Air Force, Volume I*, 1.

## Appendix A

**Table 8. Training Model Characteristics**

	Ready Aircrew Program	Tiered-Readiness	Specialized-Readiness
1. CAF responsiveness	<p><b>Quantity &amp; Time:</b> The entire CAF is perpetually ready to execute ALL of their assigned missions with minimal warning (&lt;72 hrs). Reinforcements require no additional spin-up time before deploying. A fully-funded RAP program provides commanders the largest force in the shortest period of time</p>	<p><b>Quantity &amp; Time:</b> Only a portion of the CAF is available to respond to immediate contingencies (Tier 1). The remainder of the CAF will require a period of training before deploying (Tier 2 or 3). A tiered-readiness force can deploy rapidly but with a smaller quantity of aircraft than that provided by the RAP model.</p>	<p><b>Quantity &amp; Time:</b> The entire CAF is designated CMR but only in specific missions designated by the MAJCOM. This will result in a smaller force able to execute a given mission (i.e. CAS), but the forces can be packaged for a rapid response to any contingency across the ROMO. Other CAF assets not specializing in a given mission will receive mission cross-training prior to deploying if reinforcements are required.</p>
	<p><b>Flexibility:</b> Each squadron can execute multiple missions within the AOR. New mission requirements can likely be addressed without reinforcements.</p>	<p><b>Flexibility:</b> The 1st Tier is trained to a CMR level in all assigned missions allowing for a high level of flexibility in the AOR. The limited number of 1st Tier aircraft will limit the number of airplanes that can be assigned to a given mission. The flexibility of Tier 2 and Tier 3 follow-on forces will be diminished since they will likely only receive the minimal amount of training needed to deploy them quickly.</p>	<p><b>Flexibility:</b> Packages of CAF platforms, specializing in specific missions, will be able to respond to any contingency but in smaller numbers as compared to a fully resourced RAP model. Flexibility in the AOR will be limited by the mission qualifications of the aircrews.</p>
2. MAJCOM management of combat capabilities and readiness	<p><b>Budget:</b> FHP request based on the <i>minimum</i> number of sorties that aircrew must fly to be CMR across the ROMO. RAP will be the most resource intensive model.</p>	<p><b>Budget:</b> FHP budget request methodology is the same as RAP for computational purposes. Due to expected FHP funding well below RAP minimums, ACC is unable to evenly spread the funded flight hours to all the CAF units. Only Tier 1 units will receive full funding to achieve combat readiness status. Funds left over after CMR requirements are met will be used by Tier 2 and Tier 3 units to achieve a basic readiness status.</p>	<p><b>Budget:</b> FHP budget request methodology based on the <i>average</i> number of sorties that aircrew must fly to maintain CMR status in the specific mission areas designated by Air Combat Command. The overall FHP budget will decrease relative to the RAP FHP budget.</p>
	<p><b>Risk:</b> RAP provides the lowest level of risk in any contingency if fully funded. Funding levels below 100 percent rapidly increase risk because RAP is already based on <i>minimum</i> training levels.</p>	<p><b>Risk:</b> Low risk to mission success in a small or short contingency. Moderate risk to mission success in a gradually escalating contingency. High risk to mission success in a large-scale or rapidly growing contingency.</p>	<p><b>Risk:</b> Low risk to mission success in a small or short contingency. Risk increases as the size and/or duration of the contingency increases. If follow-on units require additional training prior to deploying, the training period will be shorter than would be required for follow-on units in a Tiered-Readiness model.</p>
	<p><b>Reporting:</b> GSORTS, DRRS, and ART assessments primarily based on resource levels and the quantity of training not necessarily the quality of training.</p>	<p><b>Reporting:</b> GSORTS, DRRS, and ART assessments primarily based on resource levels and the quantity of training not necessarily the quality of training. Tier 1 units can be evaluated against established readiness criteria while Tier 2 and Tier 3 units need be evaluated against a reduced readiness scale.</p>	<p><b>Reporting:</b> GSORTS, DRRS, and ART assessments must be modified to reflect the mission specialization of individual units and the response capabilities of packaged forces. In comparison to RAP, like units (i.e. F-16 Block 40) under specialized-readiness may have different mission assignments to ensure that any contingency can be addressed with little to no notice.</p>
	<p><b>Task Distribution:</b> All like-MWS units train to the same missions and apply the same priorities to missions as designated by the RAP Tasking Memo. Mission proficiency gaps will emerge ACC-wide as as funding drops below 100 percent.</p>	<p><b>Task Distribution:</b> All like-MWS units train to the same missions and apply the same priorities to missions as designated by the RAP Tasking Memo. Only Tier 1 units will be resourced at 100 percent to maintain CMR readiness in all RTM assigned missions. Tier 2 &amp; Tier 3 units will use remaining FHP funds to achieve BMC status in RTM designated primary missions.</p>	<p><b>Task Distribution:</b> ACC assigns specific missions to individual units to ensure that any contingency across the ROMO can be responded to rapidly by a unit, or units, combat ready in that mission. Contingencies requiring multiple airpower capabilities will be addressed by packaging together units that are CMR in the required mission areas like UTC packaging is already accomplished.</p>
3. Unit-level training impacts	<p><b>Training Rate:</b> The training requirements are fixed values that must be accomplished on a monthly basis to remain CMR. Proficiency is loosely tied to CMR status through basic event currencies and weapons qualifications.</p>	<p><b>Training Rate:</b> Tier 1 units follow the CMR requirements established by RAP. Tier 2 and 3 units attempt to fly at the BMC flying rate.</p>	<p><b>Training Rate:</b> Training rates are based on the average number of sorties needed to maintain CMR status in a given mission. The focus on one or two missions will reduce requirements below RAP levels. If aircrew reach proficiency on fewer sorties than the modeled average, the aircrew can be designated CMR and then their unused sorties can be redistributed to other aircrew who require extra training to reach CMR status.</p>
	<p><b>SQ/CC Assessments:</b> Follows a prescriptive process presented in the applicable AFI 11-2MDS, Vol 1. The SQ/CC has limited discretion in the assessment of an individual's state of readiness.</p>	<p><b>SQ/CC Assessments:</b> Follows a prescriptive process presented in the applicable AFI 11-2MDS, Vol 1. The SQ/CC has limited discretion in the assessment of an individual's state of readiness.</p>	<p><b>SQ/CC Assessments:</b> Still follows the prescriptive lookback process presented in the applicable AFI 11-2MDS, Vol 1 but the SQ/CC now has discretion assess to independently assess an individual as CMR as a function of their experience, flying proficiency, and ability to execute the squadron mission.</p>
	<p><b>Resource Flexibility:</b> The SQ/CC has no formal ability to independently shift FHP resources between individuals even though some aircrew may require more while others may require less sorties than required by RAP to reach CMR status.</p>	<p><b>Resource Flexibility:</b> The SQ/CC has no formal ability to independently shift FHP resources between individuals even though some aircrew may require more while others may require less sorties than required by RAP to reach CMR status.</p>	<p><b>Resource Flexibility:</b> The SQ/CC is empowered to distribute allocated FHP resources among aircrew members to best ensure the combat readiness of the unit.</p>
	<p><b>Skills Rotation:</b> Each mission is emphasized on a monthly basis according to a tactical training plan developed by the squadron. The RTM divides MWS missions into primary and secondary missions to prioritize training when less than 100 percent of FHP requirements are funded.</p>	<p><b>Skills Rotation:</b> Each mission is emphasized on a monthly basis according to a tactical training plan developed by the squadron. The RTM divides MWS missions into primary and secondary missions to prioritize training when less than 100 percent of FHP requirements are funded.</p>	<p><b>Skills Rotation:</b> Each squadron will focus training on one or two missions assigned by ACC. If like-MWS units have different assigned missions, ACC should occasionally rotate the missions between units (or PCS personnel between units) to ensure that aircrew have an opportunity to develop skills in different mission areas as they become more experienced.</p>

Source: The Author's Original Work

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