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TECHNICAL
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Shaping the Future Air Force

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Prepared for the United States Air Force

Approved for public release; distribution unlimited



PROJECT AIR FORCE

The research described in this report was sponsored by the United States Air Force under Contract F49642-01-C-0003. Further information may be obtained from the Strategic Planning Division, Directorate of Plans, Hq USAF.

Library of Congress Cataloging-in-Publication Data

Shlapak, David A.

Shaping the future Air Force / David A. Shlapak.

p. cm. — (TR ; 322)

Includes bibliographical references.

ISBN 0-8330-3879-6 (pbk. : alk. paper)

1. United States. Air Force—Reorganization. 2. United States—Military policy. I. Title. II. Series: Technical report (Rand Corporation) ; 322.

UG633.S465 2006

358.4'130973—dc22

2006009101

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Published 2006 by the RAND Corporation
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Summary

The Headquarters USAF Quadrennial Defense Review (QDR) Analytic Steering Group adopted the FY 2004 RAND Project AIR FORCE effort, “New Strategy-Based Constructs for Shaping the Air Force,” as one of 22 capability assessments. The present report is a condensed summary of that project’s findings.

Through a combination of seminar gaming, lessons from historical experience, scenario analysis, quantitative modeling, and the expertise of the project team, this study addressed three main questions:

- What are the key security challenges that the United States will confront in the coming years?
- How might U.S. national and military strategy change to deal with these challenges?
- What kinds of capabilities will the Joint force—and the USAF—need?

Cases examined included major combat operations (MCOs) and counterterrorism, counterinsurgency, and nation-assistance (CTNA) missions.

Major Combat Operations

Regarding MCOs, our first finding is that the “classic” major combat operation—which has typically envisaged combat against an adversary with a second- or third-rate combined arms force that is committing large-scale aggression across a land border—is disappearing. Future “big wars” will, above all, usually be shadowed by the adversary’s possession of nuclear weapons (and perhaps by their willingness to use them) and/or relatively sophisticated conventional strike capabilities that can threaten U.S. forces and coalition partners. In particular, all three of the United States’ most likely near- to mid-term state opponents—North Korea, China, and Iran—either possess or in the next decade will likely come to possess a range of nuclear and conventional capabilities that will pose substantial challenges to U.S. warfighting constructs. Indeed, our analysis suggests that the United States could fail to achieve its core objectives—could, in other words, lose—under certain circumstances, in a conflict with any of the three.

Success in these stressful future MCOs will require the Joint force to field new ways of rapidly neutralizing an opponent’s arsenal of theater-range ballistic and cruise missiles. Some combination of offensive and, especially, effective defensive means will be needed.

Also, the information demands of future MCOs will exceed anything in prior U.S. experience, not just in terms of the volume and accuracy of the requirement but in the time

lines imposed on its collection, interpretation, and distribution by both the likely rapid pace of enemy operations and the vital need to prevent certain specific individual events—the nuclear destruction of Seoul or Tokyo, for example—from taking place. Acquiring and maintaining a comprehensive and up-to-date understanding of any potential adversary’s nuclear weapons program and/or deployed force, while perhaps an impossible tasking, may be the ultimate challenge for the intelligence community in the years to come.

Finally, basing and access are likely to become increasingly problematic as host countries fall under credible threat of attack, especially with nuclear weapons. While the United States and the USAF should continue to pursue access and basing agreements with a wide range of potential partners, the USAF in particular should consider whether its force mix needs to be adjusted to enable more rapid, effective, and efficient execution of a wide range of missions from relatively long ranges (see pp. 3–8).

Counterterrorism, Counterinsurgency, and Nation Assistance

U.S. CTNA activities can be thought of as responding to instability and violence through relentless, long-term action to

- *prevent* eruptions of terrorist or insurgent activity by assisting friendly governments
- *intervene* to contain and eliminate imminent threats
- *help rehabilitate* local security, political, and economic conditions to facilitate establishing stable governance.

While most CTNA scenarios will not be primarily military in nature, the Joint force will be called upon to play important, if often supporting, roles in all three classes of response, usually in close cooperation with the armed forces, law enforcement agencies, and intelligence entities of other countries.

For analytic convenience, we can identify four broad categories of resources that will be needed in CTNA contingencies:

- *Finders* are assets—both equipment and, most importantly, people—that provide detailed and sustained situational awareness about a region, its inhabitants, and their circumstances.
- *Influencers* are dedicated to training, advising, and assisting friendly governments and militaries. They also have a critical role in interacting with host nations—both regimes and populations—to help shape their perceptions.
- *Responders* provide important non-combat capabilities and support. Within the USAF, air mobility forces probably make the service’s most important and unique contribution in this category.
- *Shooters* bring to bear actual combat power where and when needed.

All four kinds of people and assets—“finders,” “influencers,” “responders,” and “shooters”—will be needed for CTNA. Further, they may in some cases need to be highly differentiated from their counterparts in MCOs—the same sensor that tracks missile launchers on the sparse and little-trafficked road network of North Korea may not be well-suited to

follow a specific sport-utility vehicle into the heavy urban environment around Karachi. Our analysis suggests that across all classes of CTNA scenarios, finders and influencers will generally be the assets most in demand and shooters the least often needed, although it also indicates that a “gunship-like” platform could be very important to provide sustained, precise support to U.S. and friendly ground forces (see pp. 11–13).

Overall Findings

In terms of national strategy, we believe that there is much that will remain the same in the near- to mid-term. The military’s role in protecting the nation, while perhaps somewhat more prominent than in the past as a supporting player in domestic emergency preparedness and response, remains what it has been for more than half a century: deterring and defeating threats beyond the borders of the United States. Our analysis also indicates that the requirement to project power in more than one theater should remain a major element of U.S. defense planning (see p. 15).

If the broad definition of the requirement seems likely to remain, what will change? First, the nature of the problem is changing: future MCO adversaries are likely to be much tougher nuts to crack, and their leaders will have more plausible theories of victory—or at least of avoiding defeat—than did Saddam Hussein in either 1990 or 2003. Second, the time lines for our involvement appear to be changing in two directions at once. On the one hand, the United States will need to react quickly to fast-developing events should, for instance, China attempt to resolve the Taiwan question by force of arms in a matter of days instead of weeks or months; on the other hand, success in the “major combat phase” of a future MCO could engender large and long-term assistance and stabilization responsibilities in, for example, a defeated North Korea.

Third, we would argue that a forward overseas presence will remain a critical U.S. policy instrument for both shaping the security environment and providing a basis for responding to problems. However, the demands of CTNA operations are likely to significantly expand the numbers, kinds, and extents—both geographic and temporal—of these presence missions and will determine their size, locations, and duration far more than will more traditional concerns about deterring “big wars.” Finally, and almost by extension, our analysis suggests that there may be a need to rebalance the land component of the Joint force to conduct sustained CTNA operations more effectively and efficiently (see pp. 15–16).

In terms of the demands that will be placed specifically on the Air Force, our assessment is that the USAF will in many future contingencies be called upon to undertake such jobs as

- identifying, monitoring, tracking, and engaging specific individuals; small groups; and mobile, concealed, and buried targets
- promptly and rapidly defeating advanced air defenses
- promptly and quickly neutralizing nuclear and other special weapons
- protecting allies and overseas U.S. installations against advanced, mobile surface-to-surface ballistic and cruise missiles
- providing assistance to friendly nations challenged by terrorist groups or insurgencies, including but not limited to training, airlift, and fire support.

Indeed, sometimes all of these tasks will need to be accomplished at the same time (see pp.19–20).

Our work suggests that there are three important new priorities the USAF should embrace as it develops its modernization program (see p. 20):

- First, the USAF should identify how its current and programmed capabilities help establish and maintain a revamped and revitalized “inform and act” infrastructure that will enable virtually everything the U.S. military does, from crafting strategy down to tactical firefights.
- Second, it should consider how it can contribute to solving the problem presented by adversaries’ long-range fire systems, especially theater-range cruise and ballistic missiles.
- Finally, given the increasing capabilities of enemy “anti-access” weapons and the lack of available time to forward deploy forces during fast-moving crises and conflicts, the USAF should explore alternatives for rebalancing its force structure to better enable prompt, persistent operations from bases located farther away from the battlefield.

While we were not asked to define specific cost or capability trade-offs, we can offer some insights into kinds of capabilities that the USAF might consider retaining relatively less of versus some of which it might desire more. Five new priorities might be

- new concepts for locating, identifying, and tracking small mobile targets, especially missile launchers and individuals
- theater missile defense
- persistent and responsive fire support for U.S. and third-country ground forces across the full range of combat environments
- long-range surveillance and strike platforms
- well-trained cadres of CTNA finders, influencers, and responders.

Capabilities that the USAF might want to de-emphasize include

- attacking massed armor, either halted or on the move
- killing fixed, soft targets
- fighting protracted air-to-air campaigns
- deterring massive nuclear attacks.

In sum, we suggest that the next Air Force might do well to have fewer fighters and more “gunships” and fewer “shooters” overall—but many more “finders” (see pp. 21–22).