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Rethinking How the Air Force Views Sustainment Surge

Cynthia R. Cook, John A. Ausink, Charles Robert Roll, Jr.

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1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138

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Summary

Each of the military services, including the Air Force, faces the challenge of keeping its weapon systems in good repair so that they are ready to be used in battle during wartime and for training in times of peace. Sustainment,¹ or repair and maintenance, is an ongoing requirement to be planned for and managed. There are variations in the level of support required to fix weapon systems, generally based on how heavily the systems are used. “Sustainment surge” describes the increase in the requirement to repair weapon systems and components during the increased operational demands of wartime or contingency operations.² “Core” capabilities are loosely understood to be skills that should be retained by government employees in government-owned facilities so that they are prepared to respond to surge requirements. Planning for surge is an ongoing activity that the Air Force and the other services need to have in place. (See pages 1–2.)

The threat environment faced by the United States, which drives sustainment surge planning, changes over time. At the end of the Cold War, military planning was based on the idea that the United States should be able to fight two simultaneous major theater wars. In 2002, the Department of Defense (DoD) decided that a new

¹ Describing the broad scope of the Air Force’s sustainment processes is beyond the scope of this report. The RAND reports referred to in the Preface provide insight into the topic.

² A surge may also be caused by an unexpected technical flaw that requires every unit of a weapon system be repaired.

force-planning construct should instead provide for (1) deterrence in four critical theaters, backed by the ability to (2) swiftly defeat two aggressors in the same time frame, while (3) preserving the option for one massive offensive to occupy an aggressor's capital and replace the regime and (4) having the ability to execute several lesser contingencies. A more recent shift in discussions of the security environment highlights four security challenges: "traditional" challenges from states employing legacy and advanced military capabilities and recognizable military forces in known forms of conflict, thus challenging our power; "irregular" challenges from unconventional methods adopted by non-state actors to counter stronger state opponents, they eroding our power; "disruptive" challenges from international competitors that develop breakthrough technological capabilities to supplant U.S. advantages, thus marginalizing our power; and "catastrophic" challenges from terrorists and rogue states that use weapons of mass destruction (WMD) or WMD-like effects, thus paralyzing our power.³ (See pages 3–4.)

In this research, we examine whether changes in the security environment and in the nature of conflicts for which the Air Force prepares are adequately reflected in the planning and execution of sustainment surge operations. We look at three major issues:

- How has the demand for sustainment surge changed? Are the concepts of core and surge outdated?
- Has legislation hindered Air Force management in developing effective and efficient ways to manage surge?
- How can the effectiveness and efficiency of surge planning be improved in the future? Are changes needed in planning, contract management, or data collection?

This report addresses all three questions, using quantitative sustainment data from depots and information obtained from interviews with depot personnel.

³ See Arthur Cebrowski, Director, Office of Force Transformation, "Transforming Transformation," *Transformation Trends*, April 19, 2004.

What have we found? The available data on depot production and overtime since 1991 indicate that the nature of surge has indeed changed. Instead of the large increases expected in the Cold War model (which would lead to double and triple overtime situations), data covering operations from Desert Storm to Enduring Freedom and Iraqi Freedom show relatively modest changes in production and overtime. Some of those we interviewed argued that depots must still plan for a large-scale surge that would require greater increases in production than are observed in the data; however, the satisfactory depot responses to recent major contingencies, combined with a large and largely untapped commercial production capacity, indicate to us that sizing depots for a Cold War-type surge is not necessary—especially if contractors are better integrated into surge planning. The Cold War-era concept of surge does not reflect the current challenges that the Air Force must face, and it does not incorporate the new reality, in which surge represents “business as usual.” The depots are managing to deal with variation in requirements without large increases in employment or even in overtime. (See pages 27–28.)

A review of the legislative history (and of DoD responses) related to military depot operations reveals that while there has been much concern about retaining certain “core” functions in government facilities, there has also been an ongoing discussion about just what those core functions might be. In addition, while the retention of core functions in government is meant to ensure an adequate response to the production demands of surge operations, there is apparently no congressional requirement that all work related to surge operations be performed by government personnel. This fact is important, because many managers in Air Force depots assume that the requirement exists. Over time, legislative restrictions on the amount of depot work that can be contracted out has added to some of the confusion about what constitutes “core” and who is allowed to accomplish the increased workloads in surge situations. Legislation may not have directly hindered depot management in developing effective and efficient ways to manage surge, but misunderstandings about the language may limit their willingness to explore all the legal options for surge planning. Furthermore, the concept of “core” is suf-

ficiently fuzzy that the term itself could be discarded. This would not mean that the congressionally imposed limit on outsourced sustainment need change or even that the various justifications that have been offered in its defense are not important, but rather that the maintenance of some level of internal capacity be simply viewed as a “just-in-case” defense resource. (See page 23.)

Any lack of clarity in the legislation has not meant that Headquarters has doubts about incorporating contractors in surge planning. In fact, we found strong support for this approach. However, our interviews at the depots found that there was real concern about the downsides of formally incorporating surge clauses into contracts. Depot personnel indicated that adding these types of clauses generally increased total contract costs and that it was usually possible to accelerate work without formal agreement. While the acceleration would come at a price, the price was paid only if the work was actually needed. In addition to concerns about costs, there was a lack of confidence in contractor responsiveness in the event of surge, even if surge provisions exist in the contract. These concerns and other issues aired during our interviews suggest that contractors are not seen as true partners in the surge process, nor are they seen as good candidates for such a partnership. However, little or no data in support of these views were provided. Contractors can be used during surge and should be incorporated into future planning. (See pages 47–49.)

Air Force depot structure and management practices changed significantly in the early to mid-1990s. Depot consolidation included the closing of significant depot facilities—at Kelly Air Force Base in San Antonio, Texas, and McClellan Air Force Base in Sacramento, California—leaving the three depots that exist today. Management changes, such as two-level maintenance and lean logistics, were implemented at roughly the same time. New data systems were put in place, and the Air Force made further efforts to improve depot operations. However, individual depots introduced some approaches (including data systems) independently, and information across depots is not usually directly comparable. A formal, top-level approach to data systems and overall knowledge management could contribute to more standardization among depots. (See pages 53–54.)

Also in the 1990s, optimization algorithms were developed to improve the prioritization of spare parts allocation. The computer model and management system called EXPRESS (Execution and Prioritization of Repair Support System) was fully implemented by 1995 and is used today to set priorities for depot repair of spare parts. While this system has been useful in managing some surge requirements, there are critical assets for which EXPRESS is not applicable, and ensuring the availability of these assets requires other approaches to surge planning. (See pages 6–7.)

Surge has become part of regular ongoing depot activity instead of an unusual event. Furthermore, recent contingencies in which there have been increases in flying hours have not led to overwhelming increases in depot repair. Depot work is not necessarily linked to actual demand at a fixed point in time; appropriate planning can help the depots proactively prepare for expected conflicts. For example, the Logistics Support Analysis conducted during the lead-up to Operation Iraqi Freedom showed that when the surge order was issued, the depots had already taken steps in anticipation of the order. The Air Force should incorporate a variety of initiatives as it develops an approach that recognizes that surge is part of normal operations—both in execution and in planning. These include continual metric development and assessment, benchmarking internal operations with those of contractors, improving (and in some cases centralizing) data systems, and incorporating contractors into the surge planning process.

We recommend that the Air Force develop better knowledge management that could be used in support of surge planning and operations. Air Force leadership should be able to use it to gain insight into how production is organized and managed, including information on capacities and abilities of both facilities and human capital, and into how contractors are linked into this process. They should consider what metrics would be most useful and should design the data systems to accurately and quickly collect the data that would support those metrics. This will require a centralized discussion engaging all three depots, Headquarters Air Force Materiel Command, and the office of the Assistant Secretary of the Air Force for

Installations, Environment and Logistics (SAF/IE). (See pages 68–69.)

Finally, we recommend that the Air Force develop centralized guidance on how to manage contractors as a potential surge asset. We have found no reason why contractors cannot be used in this way and furthermore have found local examples where they have been efficiently used for surge. But there is no clear policy on how to incorporate contractors, and the depots each take a different approach, from trying to avoid their use to seeing them as a source of flexibility for surge. The push for clear policy needs to come from Headquarters, at a level above the depots themselves. (See page 69.)

Any centralization must take into account the different cultures at the depots. They may be slower or faster to adopt changes and may require more or less training. Incorporating the perspectives of the three depots during the process of planning for change improves the likelihood that the end result will be a usable plan.