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Contractor Logistics Support in the U.S. Air Force

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Summary

The Air Force devotes enormous resources to operating and maintaining its weapon systems. In fiscal year (FY) 2006, the Air Force spent almost $36 billion on weapon system O&S, measured in constant FY 2004 dollars.[1] The Air Force has a range of choices when considering how best to sustain weapon systems and components. It can do the work in-house using organic facilities, it can pay contractors to do the work (subject to some congressionally imposed limits), or it can engage in a mix of the two approaches.[2]

This monograph addresses CLS, which is defined as contractor sustainment of a weapon system that is intended to cover the total life cycle of the weapon system and generally includes multiple sustainment elements. CLS does not include interim contractor support, a temporary measure for a system's initial period of operation before a permanent form of support is in place. CLS also excludes contractor sustainment support for a specific sustainment task that the Air Force would otherwise conduct itself; a typical example would be a weapon system's prime contractor providing sustaining engineering.[3]

[1] O&S includes all costs of operating, maintaining, and supporting a fielded system, including costs for personnel; consumable and repairable items; organizational, intermediate, and depot maintenance; facilities; and sustaining investment. Data from an Air Force Total Ownership Cost management information system query in January 2007.

[2] Federal laws require that government facilities conduct at least one-half of all depot maintenance work and that the government retain certain core maintenance capabilities. Chapter Two discusses this and provides specific references.

[3] In practice, there is some overlap among the various kinds of contract support. The Air Force identifies and funds the varieties of contract sustainment support using element-of-

The Air Force has increasingly chosen CLS as an alternative to organic support of weapon systems over the last several years. The Air Force increased its use of CLS by more than 150 percent in constant dollars from FY 2000 to FY 2006, a rate far greater than the 30 percent increase in spending on weapon system O&S over the same period.

Despite the Air Force's increased use of CLS, several of the unanswered questions about its management and use might be of interest to decisionmakers. We examine these questions, and when appropriate, provide recommendations for more effective use of CLS:

- What is driving the growth of CLS in the Air Force?
- How has contractor performance under CLS compared to initial estimates of cost and performance?
- What are the key cost drivers for CLS?
- How are the prices for CLS contracts determined?
- Do weapon systems have characteristics that are associated with using CLS; if so, what are they?
- How does the Air Force manage its compliance with laws governing the use of CLS?
- Does using CLS have disadvantages?
- What does using CLS imply for O&S cost estimating?

We approached these questions in four ways. First, we reviewed the laws, regulations, and instructions that govern the use of CLS in DoD and especially in the Air Force. This helped us understand limits and requirements that Congress and DoD have imposed on the Air Force for the use of CLS, as well as the official implementation of policies and procedures. We also reviewed reports from the Government Accountability Office (GAO) and DoD Inspector General, which were helpful in understanding problems and issues with the use of CLS over time.

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expense investment codes (EEICs) in its financial system. EEIC 578 is intended to capture CLS. We have used funds coded as EEIC 578 to identify CLS in this study. Chapter Three describes this coding more completely. Air Force Instruction (AFI) 63-111 dated October 21, 2005 defines the kinds of contract support.

Second, we examined the Air Force Total Ownership Cost management information system to understand the magnitude of CLS use and cost trends for the Air Force as a whole, by type of system, and by individual program.

Third, because the Air Force does not require detailed or uniform financial reporting of CLS costs in a corporatewide financial system, we obtained CLS brochures for individual programs to gain greater insight into the nature of CLS. Programs that do use CLS prepare these brochures annually. Each brochure contains a narrative describing the support provided and its cost by task. These brochures allowed us to address questions about key CLS cost drivers—specifically, about the kinds of tasks for which CLS is used.

Fourth, we spoke with a wide variety of people knowledgeable about the use of CLS. We held discussions with representatives of roughly a dozen large programs that use CLS. We also interviewed personnel experienced in logistics, contracting, and CLS financial and program management. These people worked at Air Force operational commands and Air Force Materiel Command, Headquarters U.S. Air Force (HQ USAF), the Office of the Secretary of Defense, the GAO, and the weapon system contractors that provide CLS.

This combination of approaches allowed us to address most of the research questions satisfactorily. Some issues regarding CLS performance remained unresolved, as we will discuss.

We found that 86 percent of the Air Force's CLS spending is on aircraft systems, with the remainder on space, missile, munitions, and other kinds of systems. (See p. 22.) Most of the growth in CLS spending in this decade has been in aircraft systems, with the C-17 and F-22 programs increasing the most because more aircraft are being delivered and because both programs recently transitioned from interim contract support to CLS. We found no evidence that the costs of ongoing and long-term CLS contracts are increasing at a faster rate than comparable organically supported programs. Rather, the increase in CLS spending is due mostly to decisions to support most new aircraft systems with CLS, while the legacy systems that they replace tend to be supported organically. (See pp. 24–29.)

We were unable to determine how CLS had performed relative to initial estimates because we found that initial estimates generally either were not developed or were not documented and retained. (See pp. 40–41.)

The key cost drivers for CLS on aircraft programs are depot maintenance for airframes and engines and the repair and replacement of parts. (See pp. 31–32.) Aircraft CLS programs have a wide scope of tasks, so contractors on some programs provide a substantial number of field-support representatives, or technicians, who perform maintenance at the flight line. Contractors on other programs provide much of the sustaining engineering. On practically all, if not all, aircraft CLS programs, contractors provided supply-chain management. (See pp. 20–21, 31–32, 93.)

We found that CLS prices for major weapon systems are seldom determined by competition. Exceptions to this norm are typically for commercial-derivative products. (See p. 72.) Prices depend on the type of contract. CLS contracts use a variety of contract vehicles and types. For cost-type contracts or tasks, the contractor is reimbursed for costs incurred plus a fee. For fixed-price contracts or tasks, government personnel generally examine the number of labor hours and the material costs the contractor has proposed to determine whether both are reasonable. The price is determined by the negotiated labor hours, the contractor's hourly labor rate(s), expected material usage and cost, plus a fee (profit). (See pp. 72–74.)

CLS contracts often guarantee a large amount of funding to the contractor in each fiscal year. This limits the flexibility of the Air Force to reduce funding levels without violating the terms of the contract. (See pp. 68–69.)

Competition is often impossible because the government lacks the technical data or the data rights needed to allow third parties to maintain the equipment, so only the original equipment manufacturer, which has the technical data, can do the maintenance. (See p. 58.)

We found that the availability of CLS cost and performance data varied among individual program offices. (See pp. 69–74.)

Several weapon-system characteristics were associated with the use of CLS, including programs that were commercial derivatives, were

highly classified, were complex, had a small fleet, or had started as advanced concept technology demonstrations. Two additional conditions associated with the use of CLS, although not with characteristics of the weapon systems, were a lack of data rights and the decision of a senior Air Force official. (See pp. 57–65.)

Certain limitations affected our ability to address all the issues satisfactorily. The most serious is the lack of detailed cost and performance data on CLS contracts, which limits our ability to assess the cost and performance of CLS relative to initial estimates or government performance of comparable work. The lack of detailed cost and performance data on CLS contracts also severely limited our ability to provide improved tools or guidance to cost estimators.

Also note that we did not specifically address issues associated with the use of performance-based logistics or public-private partnerships, which are sustainment approaches DoD has emphasized for the last several years.

The final chapter discusses five changes that should improve the Air Force's ability to use CLS effectively. The Air Force is in the process of implementing some of the changes:

1. To preserve the option of sustainment by organizations other than the contractors that manufactured the equipment, the Air Force should require centralized decisions on buying design and technical data or usage rights to such data. (See pp. 83–85.)
2. To facilitate future analysis and estimation of O&S costs, the Air Force should require collection of CLS cost data in a standardized format, as specified by the Office of the Secretary of Defense Cost Analysis Improvement Group, and should retain the data centrally. (See pp. 85–87.)
3. To ensure that the corporate Air Force has the flexibility to adjust funding levels for all aircraft sustainment programs, the Air Force should provide centralized guidance to achieve flexibility in CLS contracts. (See pp. 87–88.)
4. To improve its ability to manage CLS across the enterprise, the Air Force should strengthen data collection and analysis and expertise and make the data and expertise available to pro-

gram office personnel. This could be done by centralizing and strengthening an organization with logistics responsibilities and/or by strengthening a career field, such as acquisition logisticians. (See pp. 88–91.)

5. The Air Force should strive to retain choices for logistics services over the life cycle of the weapon system. The first four changes support this goal. (See pp. 91–92.)