CHAPTER 6

CONTRACTING FOR MAINTENANCE

6-1. Introduction to maintenance contracting

Over the past several years, the Department of Defense and the Military Services have made a concerted effort to outsource functions that are not inherently governmental. These functions are referred to as commercial activities. Although disagreements arise in defining what is not inherently a government function, most agree that there are difficulties and challenges in successfully outsourcing any function traditionally performed by the military. Among these are determining the approach for C4ISR facilities, how best to measure contractor performance, how best to monitor performance, the scope of the contract, and the benefits of including contractual incentives.

a. *Background.* In the federal government, outsourcing refers to the policy of the government not to compete for work that can be performed by the private sector, unless the government performed the work previously and the government has proven to be the more economical provider. Work that can be performed by the private sector is commonly referred to as a commercial activity. In the federal government, outsourcing decisions are made based on inventories of people who perform commercial activities. In that respect, the competition between government and the private sector for commercial activities, or outsourcing, is not a new concept; it has been around for well over 30 years.

b. *The Reason for outsourcing.* In light of declining defense budgets, efforts have been made to decrease funds supporting infrastructure and to increase budgetary support for acquisition and maintenance of the fleet. This has been referred to as increasing the "Tooth to Tail Ratio." Studies by the Center for Naval Analysis and the Defense Science Board suggest that cost savings of 30 percent should be possible by outsourcing. Dr. Paul G. Kaminski, former Under Secretary of Defense for Acquisition and Technology, described outsourcing as having four distinct benefits.

(1) *Fosters competition.* Outsourcing can introduce competitive forces, which drive organizations to improve quality, increase efficiency, reduce costs, and better focus on their customer's needs over time. For DoD, competition can lead to more rapid delivery of better products and services to the warfighter, thereby increasing readiness.

(2) *Can enhance management flexibility.* Outsourcing provides commanders with the flexibility to determine the appropriate size and composition of the resources needed to complete tasks over time as the situation changes.

(3) *Outsourcing takes advantage of economies of scale and specialization.* Organizations that specialize in specific services generate a relatively larger business volume, which allows them to take advantage of scale economies. Often, these economies of scale mean that specialized service firms can operate and maintain state-of-the-art systems more cost-effectively than other firms or the government. Outsourcing to such firms provides a means for the government to take advantage of technologies and systems that the government itself cannot acquire or operate economically.

(4) *Fosters better management focus.* In recent years, the nation's most successful companies have focused intensively on their core competencies -- those activities that give them a competitive edge—and outsourced support activities. The activities that have been outsourced remain important to success, but are not at the heart of the organization's mission. Business analysts frequently highlight the fact that the attention of an organization's leaders is a scarce resource that should be allocated wisely. This observation is equally true for the Department of Defense and the military services.

c. *Inherently governmental function.* A function so intimately related to the public interest as to mandate performance by Government employees. Consistent with the definitions provided in the Federal Activities Inventory Reform Act of 1998 and OFPP Policy Letter 92-1, these functions include those activities that require

either the exercise of discretion in applying Government authority or the use of value judgment in making decisions for the Government. Services or products in support of inherently Governmental functions. Inherently Governmental functions normally fall into two categories: The act of governing; i.e., the discretionary exercise of Government authority, and monetary transactions and entitlements. (Excerpted from OMB Circular A-76).

d. *OMB Circular A-76.* Office of Management and Budget (OMB) Circular A-76, an executive order referred to as A-76, directs the Executive Branch of the government to inventory and schedule for competition all commercial activities. By 1989, the process, which frequently took up to five years to complete and contributed little to overall savings, fell out of practice. In January 1997, facing a declining budget, CNO identified 10,665 in-house positions and 146 in-house activities that would be required to compete with the private sector. In January 1998 another 7,227 positions and 137 activities were announced, with the total for the fiscal year expected to reach 15,000 positions.

6-2. Approach for C4ISR facilities

Before committing to outsourcing C4ISR facility maintenance, the responsible manager must make the following determinations.

a. *Determine private sector capability.* Determine if private sector firms are able to perform the maintenance and meet the C4ISR facility mission. DoD will not consider outsourcing activities that constitute its core capabilities (i.e., those considered by DoD and military leaders as essential to being prepared to carry out the Department's warfighting mission).

b. *Determine competitive environment.* Determine if a competitive commercial market exists for the C4ISR facility maintenance. DoD will gain from outsourcing and competition when there is an incentive for continuous service improvement.

c. *Determine economic benefit.* Determine if outsourcing the facility maintenance results in best value for the government and therefore the US taxpayer. Activities will be considered for outsourcing only when the private sector can improve performance or lower costs in the context of long-term competition.

6-3. Measures of performance

When maintenance is outsourced, the first question is how to measure performance. To determine the "best" measure, one must first determine the requirements of the system in question. In the case of C4ISR facilities, providing power and environmental control for mission-critical equipment is the primary requirement. Furthermore, C4ISR facilities must provide these functions, for the most part, on a 24 hour per day, 365 day per year basis. That is, high availability is absolutely essential. Given that essential requirement, one of the measures for contractor maintenance should be derived from availability. The other should be based on economic considerations.

a. *Availability-related requirement.* Even with adequate redundancy, system failures will occur. The number of system failures will, of course, be determined by the reliability of all components and equipment, use of redundancy, effectiveness of maintenance, and so forth. When a failure does occur, the job of maintenance is to restore the system to full operation as quickly as possible. Three such measures are maximum downtime, maximum time to restore system, and turn around time.

(1) *Maximum downtime.* Specifying the maximum downtime (MDT) is specifically intended to limit the periods of non-operation. A stated period of operation must be stipulated for a MDT requirement. For facilities, the requirement would normally be stated for each year of operation (i.e., MDT shall not exceed 150 hours in any year).

(2) *Maximum time to restore system.* Related to MDT is Mean Time to Restore (MTTRS). MTTRS relates to the maximum time it will take to restore the system from any one failure event. In other words, although the previously stated example of a 150-hour MDT requirement limits the downtime over a one-year period, it is statistically possible for one failure event to take 50, 75, or even 100 hours to correct. Such a long downtime, even though it may occur only once or twice a year, is usually unacceptable. MTTRS limits the downtime that results from any single system failure.

(3) *Turn around time.* Only a limited number of spares can be bought, especially at the equipment or "box" level. Consequently, when a failed piece of equipment must be removed and replaced at the facility (organizational) level and repaired at a field or depot level, the length of time it takes to return the equipment to the spares supply is important. The shorter the turn around time (TAT), the fewer the number of spares that need be purchased, all other factors remaining constant. Usually we are concerned about the average and maximum TAT.

b. *Economic requirement.* Given fiscal realities and limited funding, economic considerations are also important. It is assumed that the contractor who can demonstrate in the proposal that they can provide the stipulated maintenance at the required level of performance at the lowest cost will be awarded the contract. "Cost" should be more than the price of the contract. The overall life cycle costs that will be incurred over the life of the contract should be considered.

6-4. Scope of the contract

Providing maintenance support requires labor, parts, spare units, consumables (such as lubrication oil and hydraulic fluid, clean-up materials such as rags and absorbent materials to soak up oil spills), test and diagnostics equipment, maintenance manuals, and much more. In developing the statement of work for outsourcing maintenance of a C4ISR facility, decisions must be made as to what the contractor will furnish and what the government will furnish. This process of allocation must be done with care to avoid unpleasant surprises after contract signing. An example of the level of detail required for this allocation is ordering of national stock numbered items. Will the contractor directly order these parts from DLA and, if so, will the contractor be given the necessary authority to do so? On the other hand, the contractor may be required to order such parts through a local government supply office. Whichever approach is taken, it must be reflected in the scope of the contract.

6-5. Monitoring performance

Once a contract for contractor maintenance support is awarded, it is essential that responsible government managers provide adequate level of technical oversight over the contractor's performance in executing the contract. Tracking the administrative details of the contract is not included – the contracts office that issued the contract is responsible for this tracking. Instead, technical oversight ensures that the end customer and the customer's mission are being adequately served, within the scope of the contract. Trending is important in this regard, so that potential problems are addressed before the customer and mission are negatively affected.

6-6. Incentives

Incentives are often used to motivate contractors to achieve some level of performance above the contractually required minimum. Such incentives are often used on construction projects to keep the construction time to a minimum. Incentives can be positive or negative.

a. *Positive incentives.* A positive incentive is one involving rewards. If the contractor exceeds the minimum levels of performance, a monetary reward is paid. Examples of exceeding the minimum level of performance are listed in table 6-1.

Table 6-1. Examples of positive incentives.

Minimum Level of Performance	Reward Level	Typical Reward
Complete construction within 16 weeks	Complete construction in 15 months or less	Bonus of x% of contract value for each week early up to a maximum of y%
Maximum downtime of 150 hours in any 1-year period	Downtime does not exceed 140 hours*	Bonus of x% of one year contract value for each 15-hour reduction in downtime below 140 hours
Maximum TAT $\leq$30 calendar days	Maximum TAT <25 calendar days*	Bonus of x% for each day reduction in maximum TAT achieved over a six month period

*Allows for normal statistical variation in downtime.

b. *Negative incentives.* A negative incentive is a penalty imposed for failing to meet a contractual requirement. It is rare that some kind of penalty is not imposed whenever a contractual requirement is not met. However, the type of negative incentive intended here is one related to a specific performance requirement, such as availability. The objective of a negative incentive is similar to that of a positive incentive, in that both will hopefully ensure that the performance requirements in question are met. However, the negative incentive provides no motivation for exceeding the requirement. Moreover, experts debate whether or not a negative incentive is as effective as a positive one.