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**The Budget Scoring Alternatives Financing Methods for Defense  
Requirements**

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# The Budget Scoring Alternatives Financing Methods for Defense Requirements

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## Abstract

This research investigates procurement scoring and the Department of Defense's (DoD) use of alternative financing methods, such as leases and public-private ventures. One of the major impediments to using alternative forms of procurement financing for acquiring defense capabilities is in the budgetary treatment, or "scoring," of these initiatives by the Congressional Budget Office (CBO), the Office of Management and Budget (OMB) and the congressional Budget Committees. The current scoring policy that has been applied to many initiatives essentially negates the financial advantage for using alternative forms of financing. Therefore, this research examines existing policies and their adherence to statutes and the role of the various government organizations and committees in actual recording of obligations and outlays related to financing alternatives used by federal agencies. Preliminary evidence suggests that this emerging area has major importance for future DoD acquisitions in a resource-constrained environment. Included are recommendations for changes in budgetary scoring that encompass the full scope of federal obligations and expenditures while promoting efficient, more rapid and fiscally responsible acquisitions.

## Executive Summary

Due to the increasing fiscal pressure caused by the Global War on Terror (GWOT) and the growing burden of entitlement programs, the Department of Defense (DoD) must consider alternative forms of financing, including leases and public-private partnerships (PPPs), to fund necessary programs. This research examines the budgetary treatment, or scoring, of these



financial arrangements by the Office of Management and Budget (OMB), the Congressional Budget Office (CBO) and the House and Senate Budget Committees. Every congressional legislation must be scored in accordance with the federal budget process. Scoring legislation is the process of tracking budget authority, projecting future federal outlays based on the budget authority, and recording the actual obligations and outlays in budget execution. The scoring process can greatly affect a bill's ability to be passed based on the financial considerations made by the CBO, OMB or Congressional Budget Committees.

This research introduces the current applications of leasing and PPPs in the public and private sectors. Additionally, an in-depth analysis of the current scoring process conducted by the CBO, OMB and the Budget Committees will be discussed. These government bodies represent the executive and legislative authorities for financing. This analysis will be applied to three case studies, the budgetary treatment of Energy Savings Performance Contracts (ESPC), and two cases involving the use of PPPs in the Operation and Maintenance of Military Family Housing.

Current scoring and general federal budget policies negate the advantages of using alternative forms of financing such as leasing and PPPs. Therefore, they are not used in the acquisition of major defense assets, even though they have proven to generate substantial benefits for the private sector by providing greater flexibility in financing, encouraging innovation, reducing risks, and saving time and money on projects. This research identifies the scoring policies of both the OMB and CBO and recommends a revised scoring policy that applies financial responsibility as well as fair treatment of the advantages of these initiatives. The end goal is not to develop a solution that will revamp the current budget process, but to provide a policy that will secure funding for needed defense programs while satisfying the requirements of fiscal accountability.

## Introduction

The conventional method of procurement for major government acquisitions is full-cost and up-front funding. Full-cost funding means that appropriations must be sufficient to cover a capital project prior to any obligations being incurred. In other words, the full cost of the program must be accounted for in the first year of obligation. The policy provides transparency in the budget; in other words, all programs are scored in the same manner so that proper cost comparisons can be made between projects. Additionally, full funding secures funds for the total cost of the project, minimizing the need for additional funding in the future.

Full-cost funding forces military departments to analyze each project's cost and benefits throughout its life. It ensures that future congressional action is not required to pay for previous congressional spending decisions. Also, full-cost funding empowers program managers to be responsible for time, schedule, and cost parameters of a project. While full-cost funding certainly has its benefits, the policy can cause major fluctuations in appropriations that might eliminate the ability to fund a justified program. Particularly with large acquisitions, full-cost funding consumes a large portion of a military department's available funding resources, thus reducing the funds available for other programs.

With the growing cost of the Global War on Terror (GWOT), particularly with Operations and Maintenance (O&M) and growing technology costs, the Department of Defense (DoD) is under increasing pressure to secure funding for large capital projects with a smaller percentage of the budget designated for new procurement of combat capability. Therefore, alternative financing arrangements, including but not limited to incremental funding, operating leases, out-



leases, share-in-savings contracts, and public private partnerships (PPPs), have attracted interest as potential alternative financing methods. The potential advantages and disadvantages of these financing methods will be analyzed, along with the scoring methods that determine their cost.

The Office of Management and Budget (OMB) for the Executive Branch, the Congressional Budget Office (CBO) and Congressional Budget Committees for the Legislative Branch have the collective responsibility for determining the benefits and costs for DoD appropriations bills. This power, as dictated in the *Congressional Budget Act of 1974*, empowers these agencies as the official “scorekeepers,” who determine the actual cost of programs and their relationship to the overall National Military Strategy. However, operating under the same scoring guidelines, divergent scoring results arise between the OMB, CBO and the Budget Committees based on different interpretations of the scoring principles.

This research focuses on the benefits of alternative financing and the scoring of these benefits from alternative financing agreements. With increasing fiscal pressure, these methods are necessary to provide funding for needed acquisitions. In the GWOT and the more hostile world in which we live, the Warfighter cannot wait until the next budget cycle for the equipment needed to complete the assigned mission. A revised scoring policy is recommended to permit the DoD to fund additional procurement projects within the same budget constraints, using fiscally sound, generally accepted accounting principles.

## Background into Scoring

The term “scoring” describes the process in which the CBO and OMB estimate the budget authority required by proposed legislation. Budget authority is the authority provided by law to incur financial obligations that will result in monetary outlays (OMB, 2006, June). Scorekeeping determines in a dollar amount the budget effects of legislation and forecasts future outlays needed to fund a program. The “scorekeepers” consist of the Congressional Budget Committees, the CBO, and the OMB. The scoring process and principles used by these entities greatly impact the scored “cost” of a program and, consequently, the ability of the legislation to be passed by Congress. The current scoring guidelines greatly limit the advantages of alternative financing arrangements that attempt to draw on private-sector expertise and funding. This section analyzes the scoring rules that apply to lease, lease-purchase, and capital acquisition arrangements and addresses the disadvantages of the current guidelines. It also provides a background into Energy Savings Performance Contracting (ESPC).

The scoring guidelines contained in OMB *Circular A-11* embody two fundamental principles of federal budgeting:

Federal commitments should be recognized up-front in the budget; at the time those commitments are made.

Budget should be comprehensive, capturing all financial activities of the federal budget (President’s Commission on Budget Concepts, 1967, October).

These principles form a policy known as full-funding that requires agencies to request all funding for a project up-front. Prior to 1991, the budget authority and outlays for most leases were recognized annually over the lease term in the form of annual lease payments. This policy allowed agencies to acquire an asset without Congress’ consent for the full funding of the asset.





In 1991, new guidelines issued by the OMB scored capital leases and lease-purchases as up-front and requiring full funding. The policy is designed to force decision-makers to determine the entire cost of a project prior to approving the legislation. The up-front funding allows for greater Congressional control over appropriations and also allows Congress to evaluate multiple pieces of legislation on a cost basis. This “transparency” provides Congress with a “standard” with which to monitor the spending of both individual agencies and the entire federal government on an annual basis.

Full funding also better aligns Congressional budget estimates with the *Anti-deficiency Act* (31 USC 1341), which prohibits the government from entering into obligations for the payment of money before an appropriation is made, unless authorized by law. Full funding is a policy rather than a law, which means that the interpretation of the policy can impact the budgetary treatment of a program. Whether an asset is acquired via direct purchase, lease, or through a combination of the two, scoring rules are currently biased towards full funding. These financial arrangements, as well as an analysis of the impact of the current scoring rules, will be addressed below.

## Federal Budget Principles: Purchases, Leases, and Alternative Financing

### Direct Purchases

A simple example of budget scoring is an outright purchase: the government's budget commitment is the purchase price of the asset. Budget authority is assessed equal to the purchase price of the asset at the time when authority is received to acquire the asset. Outlays are then recorded when actual cash payments are made to the seller (CBO, 2003). Outright purchases can be financed through borrowing at a low interest rate from the US Treasury (e.g., Treasury Bills sold publicly), whereas leases require a higher interest rate due to private-sector financing. The scoring policy does not account for several inherent costs of directly purchasing an asset. Full-funding an asset requires the government to assign a larger proportion of the available budget authority to the asset, leaving less budget authority available for other assets in any given fiscal year. Under this policy, a larger opportunity cost exists as decision-makers must often decide between two mutually exclusive programs rather than funding both. Military Departments must often delay or cancel large capital investments that will offer better performance and lower long-term costs to realize short-term savings. Benefits generated by these large projects are realized over several years, whereas the costs must be realized up-front. Outright purchasing may force elected officials to choose between two or more justifiable programs, when both programs could be funded through other means.

### Leasing

To distribute the acquisition cost of an asset over its years of use, the government has the ability to lease the asset, or in some cases, to enter into a partnership with private companies to acquire the asset. A simple lease arrangement involves an owner (lessor) renting the use of an asset to another party (lessee). For example, the rental of an automobile from Avis implies no ownership. However, leases can be structured in an almost limitless number of complex arrangements in which all terms are negotiable, and third-party financing may be involved.





To limit the discussion, leases within government are placed into four broad categories: operating leases, capital leases, and lease purchases with or without substantial private risk. The distinction between the different lease types determines how the CBO, OMB and the Budget Committees score budget authority for legislation. Each lease category is discussed below.

To be considered an “operating” lease, a lease must satisfy the following stringent criteria:

Ownership of the asset remains with the lessor during the term of the lease and is not transferred to the Government at or shortly after the end of the lease period.

The lease does not contain a bargain-price purchase option.

The lease term does not exceed 75% of the estimated economic lifetime of the asset.

The present value of the minimum lease payments over the life of the lease does not exceed 90% of the fair market value of the asset at the inception of the lease.

The asset is a general-purpose asset rather than a special-purpose asset for the Government and is not built to unique specification for the Government as lessee.

There is a private-sector market for the asset.

Risks of ownership of the asset should remain with the lessor (OMB, 2006, June, part 8-appendices).

Any lease not satisfying these stringent criteria will be viewed as a “capital” lease. Requirements 5 and 6 (the need for a private-sector market for the asset and the requirement for the asset to be general purpose) essentially eliminate operating leasing for military equipment procurement.

In both operating and capital leases, ownership remains with the lessor and is not transferred to the government at the conclusion of the lease period. In contrast, lease-purchase arrangements allow ownership of the asset to be transferred (GAO, 1997). Determination of risk is another crucial determination in the budget-scoring process. In OMB *Circular A-11*, risk is defined in relation to the government-specific characteristics of the project. The more governmental the project, the greater amount of risk is assigned to the government. Legislation and lease-purchases use the following criteria to determine the amount of risk borne by the government.

There should be no provision of Government financing and no explicit Government guarantee of third-party financing.

Risks of ownership of the asset should remain with the lessor unless the Government was at fault for such losses.

The asset should be a general-purpose asset rather than for a special purpose of the Government and should not be built to unique specification for the Government as lessee.

There should be a private-sector market for the asset.



The project should not be constructed on Government land.

The ambiguity of these guidelines demonstrates that they are more “policies” rather than scoring “rules.” The interpretation of these guidelines has been the source of frustration for many private-public partnership initiatives.

The budgetary treatment of the four categories of lease arrangements is summarized in Table 1 below.

Transaction	Budget Authority	Outlays
Lease-purchase Without Substantial Private Risk	Amount equal to asset cost recorded up-front; amount equal to imputed interest costs recorded on an annual basis over the lease period	Amount equal to asset cost scored over the construction period in proportion to the distribution of the contractor's costs; amount equal to imputed interest costs recorded on an annual basis over the lease term
Lease-purchase with Substantial Private Risk	Amount equal to asset cost recorded up-front; amount equal to imputed interest costs recorded on an annual basis over the lease term	Scored over lease term in an amount equal to the annual lease payments
Capital Lease	Amount equal to asset cost recorded up-front; amount equal to imputed interest costs recorded on an annual basis over the lease term	Scored over lease term in an amount equal to the annual lease payments
Operating Lease	Amount equal to total payments under the full term of the lease or amount sufficient to cover first-year lease payments plus cancellation costs recorded up-front	Scored over lease term in an amount equal to the annual lease payments
(CBO, 2003, p. 9)		

**Table 1. The Budgetary Treatment of Leases and Private/Public Ventures**

For lease-purchases and capital leases, budget authority will be scored against legislation in the year in which the budget authority is first made available. The recorded amount is the estimated net present value of the Government's total estimated legal obligations over the life of the lease term. From a budget perspective, purchases, lease-purchases, and capital leases all attempt to acquire an asset over its total life and are scored similarly. The only major difference involves the treatment of outlays in lease purchases with substantial private risk.

#### Scoring Policy of Operating leases

Operating leases are different from capital leases or lease purchases because the lessee has no intention to purchase the asset. The budget authority for operating leases will be scored in the first year budget authority is made available in the amount sufficient to cover the Government's legal obligations (OMB, 2006, June). Budget authority for operating leases is scored for the full cost of future lease payments in the first year of a lease; or, if a cancellation clause exists, budget authority for the first year is scored equal to the first year's payment plus cancellation fees, with following years to be scored incrementally.

## Advantages of Leases

Leasing provides a number of important advantages in addition to reducing the budget authority assigned to a project. Leasing generally offers a higher degree of flexibility in operating assets, allowing modification of assets to meet changing needs. A complement of services typically is included with a lease, allowing an organization to draw on the expertise and resources of the lessor. Leasing also conserves capital, which would be required in either a down payment or outright purchase. In the private sector, lease payments can be considered an operating expense and, thus, offer an important tax advantage. As a non-tax paying entity, the government does not have this advantage. However, leasing affords a government agency the ability to spread the acquisition costs over multiple budgetary periods, which will more likely correspond with the useful life of the equipment. Significant up-front costs of direct purchasing may pressure an agency to settle for lower-priced equipment that fails to meet the requirements.

## Alternative Financing Agreements: Public-private Partnerships

In August 2003, the Government Accountability Office (GAO) published *Alternative Approaches to Finance Federal Capital*, which examined the increased usage of alternative financing by Federal agencies. The GAO identified ten alternative financing approaches used by Federal agencies to fund projects:

1. Incremental funding,
2. Operating leases,
3. Retained fees,
4. Real property swaps,
5. Sale-leasebacks,
6. Lease-leasebacks,
7. Public-private partnerships,
8. Out-leases,
9. Share-in-savings contracts, and
10. Debt issuance.

The GAO report further recognized that these arrangements would be beneficial to agencies in that they would be able to acquire capital assets without first having to secure sufficient appropriations to cover the full cost of the asset (GAO, 2003, August). Of these financing approaches, public-private partnerships (PPPs) have the greatest potential for DoD procurement of military equipment.

The scoring of public-private partnerships has been a very controversial and important budget issue to those seeking to utilize private-sector resources in government projects. Because no two public-private partnerships (PPPs) are arranged exactly the same, each PPP must be carefully examined prior to any scoring determination. Several of these financing agreements will be examined in the included Case Studies. The major debate revolves around the determination of financial obligation and risk incurred under each of these agreements. Because of the complexity and individuality of many of these arrangements, there is usually no precedent to guide the scoring of these arrangements.



PPPs can be used by the government to affordably take advantage of an underutilized asset, benefiting from private-sector expertise, or leverage private-sector financing in the short-term to acquire a public asset. Leasing may only be small part of the PPP. In some cases, the government may benefit from the revenue a leased asset generates rather than benefit from the use of an asset—serving as the lessor rather than the lessee (CBO, 2003, p. 26). Unfortunately, the Budget Committees, OMB and CBO are typically conservative in their scoring of these arrangements and typically do not discount the inherent benefits of these contracts from the overall budget authority assigned to the contract. The result is up-front budget authority scoring for the project, which may exclude the legislation from being passed. In Case Study Number One, various alternative financing strategies involving governmental housing and buildings will be examined for potential applications to finance military capital acquisitions. In another Case Study, share-in-savings contracts will be examined utilizing the Energy Savings Performance Contracts case. Together, these case studies will demonstrate how current scoring guidelines are used to score alternative financing arrangements based solely on the financial obligation without sufficient regard to the program's benefits.

### Barriers to Alternative Financing

A 2003 report written by the Congressional Budget Office addressed the government's concern involving the use of long-term leasing agreements; in particular, their ability to:

1. Reduce the budget's ability to fully depict the Federal Government's financial commitments.
2. Undermine fiscal policy by circumventing controls such as limits on deficits and caps on Federal Spending.
3. Allow an agency to avoid facing the full costs of purchasing an asset at the time it decides to buy it, thus making acquisitions that are not cost-effective more likely.
4. Raise the costs of some investments because a lease purchase is, over the life of an asset, inherently more costly to the government than a direct purchase (CBO, 2003, p. ix summary).

Due to these concerns, there is a large incentive to capitalize the majority of lease agreements, which scores the lease similar to a direct purchase. Since the lease involves payments over time, there is an inherent interest cost disadvantage when delaying the payment of an asset. The scorekeepers use the prime rate or an average of the interest rate of marketable Treasury securities as their standard discount rate. Since private leasing firms require a return that exceeds the prime rate, leasing arrangements incur an additional cost: the difference between the prime rate and the negotiated rate. The scoring rules also assume that parity exists between public and private firms when operating, managing, or maintaining an asset. The additional services and expertise of the private-sector firm are not incorporated into the current scoring guidelines.

## Scoring Case Studies

### Practical Usage of Alternative Financing

#### Introduction

As previously mentioned, the GAO identified 10 capital financing approaches in use by government agencies as alternatives to the conventional full-funding approach (GAO, 2003,



August). Five of these 10 approaches were selected for examination on the basis of their potential application towards funding large DoD procurements of capital equipment. These financing strategies include: Incremental funding, Operating leases, Public-private partnerships, Share-in-savings contracts, and Debt issuance. The combined effects of these are reducing the up-front budgetary impact of capital projects, making use of all existing public resources, and incorporating private-sector efficiencies within government projects, which has been a stated goal of every administration since Thomas Jefferson's.

In 1996, Congress passed legislation in the *National Defense Authorization Act*; this bill created the Military Housing Privatization Initiative (MHPI) to address the costly challenge of maintaining adequate housing for service members. Of the 300,000 military housing units in existence, an estimated 200,000 units were in need of repair at an approximate cost of \$16 billion, which would restore the units to acceptable conditions (DoD, 1999). The Department of Veterans Affairs (VA) also possesses legislative authority to utilize alternative financing techniques. To alleviate the large up-front costs of their projects, these agencies selected various PPPs as alternatives to conventional funding. Several MHPI and VA projects are presented below to discuss the scoring determination and potential broader application to capital procurement for the DoD.

### **Public Private Partnerships (PPPs)**

In a 2003 study by the GAO, PPPs were identified as the most prevalent alternative financing method, with over 54 different agreements in existence within US agencies (GAO, 2003, August). PPPs are a particularly popular alternative-financing technique for the DoD due to their great flexibility and ability to apply private-sector capital and expertise to public needs and resources. In this symbiotic relationship, each party benefits from its participation in the partnership. The government is unable to be the most efficient provider of all necessary services and equipment items for the public sector. OMB *Circular A-76* acknowledges this reality and provides guidelines with which to outsource public requirements to the private sector and promote efficiency (OMB, 2003, May). In some cases, adaptable technologies or industrial capacity already exist in the private sector that could address the requirements of the military. A PPP can be formed to exploit these opportunities in a manner conventional full-funding procurement cannot.

Despite the efficiencies of PPPs, the scoring of PPP legislation has become increasingly conservative—limiting the flexibility originally granted by statutory authority to several Federal agencies. The CBO and OMB believe that Federal agencies are using special purpose public-private ventures as a way to access private capital without triggering lease-purchase guidelines and to avoid recording obligations up-front in their budgets. This section will discuss these concerns and other scoring issues using several examples from the DoD's privatization of military housing and the VA's enhanced-use lease authority.

The majority of PPPs involve the Federal Government's real property or other underutilized assets that can be developed, revitalized, or managed by the private sector. The key element of a PPP is that the government possesses some non-monetary asset that has value to the private sector. In a typical fully funded contract, the government must set aside funds sufficient to cover all obligations in the first year of the project. In PPP agreements, the government is able to barter an asset or use existing conditions in lieu of full payment to reduce their obligations. These assets can include loan guarantees, longer lease terms, debt issuance, guaranteed minimum rates of occupancy, or even the transfer of the asset at the completion of



the lease term. Figure 1 depicts the wide degree of versatility of PPP contracts in managing responsibility throughout the life of an asset.



**Figure 1. Degree of Government Responsibility in PPP Contracts**  
(Dovey & Eggers, 2007, p. 5)

Below is a listing of the most common PPP relationships in existence.

**Design-Build (DB):** Under this model, the government contracts with a private partner to design and build a facility in accordance with the requirements set by the government. After completing the facility, the government assumes responsibility for operating and maintaining the facility. This method of procurement is also referred to as Build-Transfer (BT).

**Design-Build-Maintain (DBM):** This model is similar to Design-Build except that the private sector also maintains the facility. The public sector retains responsibility for operations.

**Design-Build-Operate (DBO):** Under this model, the private sector designs and builds a facility. Once the facility is completed, the title for the new facility is transferred to the public sector, while the private sector operates the facility for a specified period. This procurement model is also referred to as Build-Transfer-Operate (BTO).

**Design-Build-Operate-Maintain (DBOM):** This model combines the responsibilities of design-build procurements with the operations and maintenance of a facility for a specified period by a private-sector partner. At the end of that period, the operation of the facility is transferred back to the public sector. This method of procurement is also referred to as Build-Operate-Transfer (BOT).

**Build-Own-Operate-Transfer (BOOT):** The government grants a franchise to a private partner to finance, design, build and operate a facility for a specific period of time. Ownership of the facility is transferred back to the public sector at the end of that period.

**Build-Own-Operate (BOO):** The government grants the right to finance, design, build, operate and maintain a project to a private entity, which retains ownership of the project. The private entity is not required to transfer the facility back to the government.

**Design-Build-Finance-Operate/Maintain (DBFO, DBFM or DBFO/M):** Under this model, the private sector designs, builds, finances, operates and/or maintains a new facility under a long-term lease. At the end of the lease term, the facility is transferred to the public sector. In some countries, DBFO/M covers both BOO and BOOT.



PPPs can also be used for existing services and facilities in addition to new ones. Some of these models are described below.

**Service Contract:** The government contracts with a private entity to provide services the government previously performed.

**Management Contract:** A management contract differs from a service contract in that the private entity is responsible for all aspects of operations and maintenance of the facility under contract.

**Lease:** The government grants a private entity a leasehold interest in an asset. The private partner operates and maintains the asset in accordance with the terms of the lease.

**Concession:** The government grants a private entity exclusive rights to provide, operate and maintain an asset over a long period of time in accordance with performance requirements set forth by the government. The public sector retains ownership of the original asset, while the private operator retains ownership over any improvements made during the concession period.

**Divestiture:** The government transfers an asset, either in part or in full, to the private sector. Generally, the government will include certain conditions with the sale of the asset to ensure that improvements are made and citizens continue to be served (Dovey & Eggers, 2007, p. 5).

#### **PPP Examples: Government Privatization Initiative**

The statutory authority originally granted in 1996, and later made permanent in 2005, allows the government to enter into public-private partnerships without individual project approval from Congress (10 USC 2871-2885). The relative complexity of PPP contracts frequently generates disagreements amongst the CBO, OMB, and agency representatives concerning the interpretation of the scoring guidelines. The goal of the CBO and OMB is to provide to decision-makers an accurate account of the amount of legal obligations of the federal government. PPPs represent a valuable method of accessing private capital and expertise independent of the scoring determination made by the CBO/OMB. The following DoD and VA case studies analyze the value of the PPPs and the scoring issues in the cases.

#### **Public-private Partnership Case Study 1: Ft. Hood Family Housing, LLP**

##### **Description of Project**

In 2001, Fort Hood Family Housing was selected as one of the first PPPs by the Army when it contracted Actus Lend Lease to manage all aspects of the development, financing, construction, and property management for the Fort Hood Family Housing project (Fort Hood Family Housing, 2007). The partnership detailed a 50-year lease to maintain the 5,912 units located at Fort Hood, Texas (CBO, 2003, p. 28).

##### **Financial Details**

At the conclusion of the initial 50-year lease, the Army has the option to renew for another 25-year lease term. If the Army does not renew, all assets remain government property.





The housing project has an estimated cost of \$260 million. The burden of that cost will be divided: \$186 million will come in the form of a loan entered into by the partnership; Bank One will provide \$20 million in private equity; and the Army will invest \$52 million in equity.

Actus will also provide \$6 million in equity at the end of the fifth year for additional development. The contract also provides Actus with a preferred return on equity of 10-12%, and a portion of partnership earnings up to a predetermined ceiling. Actus will also receive payment equal to a fixed percentage of the project's gross revenue for its management services.

### **Scoring Impact and Issues**

The Army was able to obtain in excess of \$273 million in financing for an up-front cost of \$52 million (CBO, 2003, p. 42). Only the Army's direct investment of \$52 million was scored by the OMB as an immediate obligation. The transfer of land and pre-existing housing units to Actus had no budget impact based on the absence of any cash transaction between the two entities. A summary of budgetary treatment of asset sales and barter by the CBO and OMB is included in the table below. The rental of the housing units to service members was viewed as individual transactions between private parties. This distributed the budget impact for the housing expenditures to an annual expense vice an up-front cost. Additionally, the \$186 million obtained via loan is viewed by the Army as debt of a private entity and not the government. According to the contract details, the Army does not have a legal obligation to cover the costs of the partnership's financing. However, the housing units are located on government land, and the management terms of the contract effectively place the housing under government control.

The actual budgetary impact and actual cost of this PPP has particular significance as the Fort Hood Family Housing, LP, was one of the first PPPs initiated by the DoD. The scoring debate has two clearly polarized sides. From the scorekeepers' perspective, the government's total obligations remain hidden in the financial framework of the partnership, blinding Congress of the needed information to calculate future budget impact. Also, an important underlying issue remains: is this type of partnership actually cost-effective? The deal stipulates a mandated 10-12% return on equity plus a management fee based on the partnership revenues. Could the government provide this service at similar cost and service levels? Another critical issue for the CBO/OMB is the long-term (50 years) lease agreement that represents a long-term commitment to the Fort Hood, Texas base. The long-term lease limits the year-to-year budget control of Congress and obligates the Federal government to unspecified future obligations.

From the service and partnership perspective, the PPP allows the DoD to immediately resolve the issue of substandard and insufficient military housing that threaten the quality of life and retention of the military. The costs of the project are distributed throughout the life of the project. The venture utilizes the housing allowances of the individual service members to finance the agreement over the lease term. Actus Lend Lease, with over 30,000 managed units, is able to offer considerable private expertise that helps achieve a more efficiently run housing project and higher customer-satisfaction levels (Fort Hood Family Housing, 2007). The agreement also alleviates the DoD of housing funding that can now support other missions such as Iraqi reconstruction and development.

PPPs also provide stronger incentives to complete the project on-time and under budget. In 2003, the United Kingdom's National Audit Office reported that 73% of non-Private Finance Initiative (PFI) projects were over budget, and 70% were delayed—versus only 22% of PFI contracts delivered over budget, and 24% delivered late (Dovey & Eggers, 2007, p. 7). The



UK's previous experience in public-private partnerships has demonstrated that non-financial cost factors such as quality, service, timeliness, and expertise can often justify the involvement of the private sector in providing public financing.

This case study highlights the scoring impact of these alternative financial arrangements. For the Fort Hood Family Housing Project, should the up-front obligation for the government be scored at \$52 million or \$273 million? The CBO asserts that although only a small portion of the total investment has been fronted by the DoD, the DoD has overall controlling interest in the project. The venture is structured to fulfill the service needs; the Army shares in the earnings of the venture above a threshold, and also controls the housing units at the end of the lease. Additionally, military tenants have preferential status for obtaining occupancy, and the venture must maintain affordable rents for service members (CBO, 2003, p. 29). The argument is made that Fort Hood Family Housing Project is a purely government-driven project.

The issue is not whether or not the contract is structured for the service's interests—of course it is. The issue is whether this type of alternative financing is beneficial to both the service and, more importantly, the government as a whole. In this case, the Army should have the flexibility to improve existing military housing with a lower up-front cost of \$52 million. Congress and Army leaders must realize, however, that the total obligation to the government will exceed the \$273 million total investment upon conclusion of the project. A balance between Congress' desire to control the purse versus the services' need to supply critical services to their members must be reached. The budgetary impact of CBO/OMB scoring will continue to be analyzed in the following case studies.

### **Public-private Partnership Case Study 2: Chicago West Side Regional Headquarters (CWSRH)**

The Department of Veteran's Affairs (VA) was granted authority to enter into enhanced-use lease contracts in 1991 (38 USC 8161-8169). The legislation allows the VA to lease government land to private entities for up to 75 years for the purpose of developing the land for VA or private needs. Payments resulting from the lease can be used by the VA without further Congressional oversight (CBO, 2003, p. 31). The VA then has the option of leasing back the privately developed facilities for their uses. The VA can enter into these agreements without Congressional approval and only must notify Congress within 60 days of the enhanced-use lease agreement. Enhanced-use leases are particularly attractive to the VA due to their vast holdings of underdeveloped land and facilities.

#### **Description of Project**

The Chicago West Side Regional Headquarters (CWSRH) project's enhanced-use lease is an example of the flexibility of PPPs, but the project also presents difficult scoring issues to the CBO/OMB. In 2002, the VA entered into a series of agreements used to fund a new \$60 million Chicago headquarters building and parking facility (CBO, 2003, p.33).

#### **Financial Details**

The project involved numerous interdependent agreements. West Side Enhanced-use Lease Trust was created, with the VA named as sole beneficiary. A four-acre plot adjacent to the VA Medical Center in downtown Chicago was included in the trust, using a 35-year enhanced use lease agreement. MedPark, a private contractor, would be responsible for the construction, outfitting, and management of the office and parking facilities. The Illinois



Department Finance Authority would issue \$9 million in taxable revenue bonds to help fund the project. The proceeds from the bond issuance would be loaned to the Trust to pay for the design and construction of the facility. Under the lease terms for the building, the VA is obligated to a two-year lease for a minimum of 95% of the office and parking facilities. The leases are automatically renewing unless the VA renders written notice prior to the end of the lease term. Additionally, if the VA occupies any portion of the building, it must cover at a minimum the amortization and interest of the trust's loans plus all the trustee's expenses (CBO, 2003, p. 34).

### **Scoring Impact and Issues**

In October 2001, the OMB and VA settled how obligations and outlays would be treated for lease-back agreements (CBO, 2003, p. 44). A leaseback agreement is a lease in which the government is the lessor vice the lessee. The agreement stipulated that VA leasebacks of terms up to two years in length would be treated as operating leases, as long as the VA had no right of first refusal on future lease terms. The property lease was drafted to be a non-cash barter transaction without budget impact. The revenues received by the VA from the trust would offset the VA's initial investment and be under the agency's discretion. The initial lease of the building was designed to be an operating lease, and the borrowing of the Trust to be private borrowing. The VA does not have right of first refusal for future leases as mandated by their 2001 agreement with the OMB. The CBO is concerned with the VA's obligation to cover the cost of capital for the Trust even if the agency reduces its usage of the facility.

The CBO points out that the CWSRH enhanced-use lease agreement represents a significant long-term obligation by the VA and is not actually limited to the initial two-year lease term. As such, the budget impact of the project far exceeds the VA's estimation. Congressional scoring is only rendered on new legislation; since the project was passed under existing authority, the scoring issues remain unresolved. From the VA's perspective, the agreement was crafted with only limited, future risk to the government. The facilities were built in a highly popular section of downtown Chicago—increasing the likelihood of finding replacement tenants if demand for usage fell below initial levels. Additionally, the VA benefited, as sole beneficiary of the Trust, from proceeds from the leasing. The obligation of the Trust to the VA would help the Trust obtain funding and reduce risk from private creditors.

The VA's Chicago project is a demonstration of how a government agency was able to utilize an underdeveloped asset to fulfill an immediate need. The project was designed to limit the initial up-front cost of the venture to the initial two-year lease agreement, with construction and design of the facilities to be paid for via private equity. Future lease agreements would be entirely governed by the private trust for the 35-year agreement, with the VA receiving preferential treatment in facility usage. Utilizing the legislative authority, the VA was able to construct the optimal size facility and benefit from any private usage of the facility. The project is an example of how a PPP was used to finance and successfully create an otherwise unaffordable project.

An obstacle to greater usage of this type of funding is the budgetary treatment from the OMB and, particularly, the CBO. In 2002, HR 3947, *the Federal Property Management Reform Act*, was introduced that would give federal landholding agencies additional authorities in acquiring, managing, improving, and disposing of their property assets; it also provided incentives to manage these assets efficiently (CBO, 2002). Although the bill did not receive the necessary approval, it did clarify the position of the CBO towards PPPs. In its Cost Estimate for the Bill, the CBO stated it viewed, "hybrid entities like public-private business ventures" as



governmental. Meaning that, since the purpose of the venture is mostly or entirely governmental, any borrowing or outside financing activities would be viewed as new federal borrowing authority. Additionally, it felt that most, if not all, of the public-private ventures should be subject to the lease-purchase scoring guidelines contained in OMB *Circular A-11*.

The scoring of private involvement remains a frustrating issue as the CBO reserves the right to alter its interpretation of the scoring guidelines. For six years (1996-2002), the CBO scored military housing ventures consistently with the OMB. However, in 2002, the CBO changed its position, viewing the ventures as additional borrowing. In regards to share-in-savings contracts, the CBO reversed a decade-old policy of scoring ESPCs budget-neutral to scoring them as additional budget authority. Other agencies, such as General Services Administration (GSA), support legislation that expands the authority to utilize private partnerships (Perry, 2002, April 18). While the CBO's role is to remain objective and impartial, its interpretation of scoring guidelines dictates policy for privatization initiatives. If Congress seeks to build on the recent successes in military housing or VA's enhanced-use contracts, its members should offer directed scorekeeping that promotes efficient economic use of DoD resources. It is our belief that the efficiencies of these ventures can be translated on a larger scale to the procurement, management, and disposal of military capital equipment. The DoD can more efficiently procure and manage its assets, but only if it receives legislative authority and budgetary treatment allowing it to do so.

The decision to undertake a project must be separated into two parts:

1. Is the project worthwhile to undertake?
  - a. Do the benefits exceed costs?
  - b. Does the return exceed the required rate of return on investment?
  - c. Does this project warrant the limited resources that it will consume?
2. Given that this project is worthwhile, what is the best method to finance the project?

### **ESPC Case Study**

Energy Savings Performance Contracting (ESPC) is the most cost-effective means of completing building energy upgrades and associated savings. The concept has existed since 1992, but it was not implemented by the Department of Energy until 1995 (DoE, 2006, June). ESPC is a means of using utility savings to pay for all project costs. There are many possibilities of projects, such as energy-management systems, interior and exterior lighting, boiler replacement or repair of steam systems, and replacement of Heating, Ventilation, and Air Conditioning (HVAC) (Washington State Department of General Administration, 2007). This form of contracting normally guarantees project costs, savings and performance of installed equipment. However, the majority of risk is borne by the contractor, not the government. The government must fully fund the project—which often causes debate about the direct costs and overall benefit.

The Department of Energy explains:

An ESPC project is a partnership between the customer and an energy service company (ESCO). The ESCO conducts a comprehensive energy audit and identifies improvements that will save energy at the facility. In consultation with the agency customer, The ESCO designs and constructs a project that meets the agency's needs and arranges financing to pay for it. The ESCO guarantees savings sufficient to pay for



the project over the term of the contract. After the contract ends, all additional cost savings accrue to the agency. Contract terms up to 25 years are allowed. (DoE, 2006, June)

Since 2005, more than 400 federal ESPC projects, in 46 different states, by 19 different federal agencies (altogether worth \$1.9 billion) have generated \$5.2 billion in energy cost savings (2006, June).

The use of ESPCs is ideal for organizations which seek out alternative means of funding programs. As the Department of Defense (DoD)'s discretionary portions of the budget continue to become strained, high competition for those funds may leave critical programs dry. Many facilities throughout the DoD were built shortly after World War II. Few new facilities have been built replacing the old. Dated DoD equipment and assets—such as the B-52 bomber, SH-60 helicopter and many others—are continuously being funneled additional funds. This funding is higher than normal funding for these assets due to increased maintenance, poor fuel economy, dated insulation techniques, and lack of funding to support replacements. Thus, the DoD continues to live with existing problems. The ESPC is a means to cut costs while continuing overall functionality of facilities and assets. Other means of financing, such as PPPs and various forms of leases, are used successfully today by the private sector and will become a way of life for many organizations.

A perfect example of the benefits of an ESPC pertains to many homeowners. A homeowner will evaluate the cost of improving his/her home with the expected benefits. The homeowner may attempt to determine some form of payback period or return on investment. The homeowner must determine the means of financing such improvements as well. The government and its facilities are no different. But many vendors are willing to offer their supplies and equipment to help defer the required payments over some time frame, but at some higher price. Assume the proposed cost to renovate or improve a home was \$10,000. This improvement would replace the windows, lighting and appliances. The home would become more efficient and reduce utility costs. The vendor and homeowner would agree upon some baseline on expenses once improvements were installed, and the difference would be used to "pay off" the vendor for its services. If there are no savings, the vendor does not get paid. Assume for contract period is eight years. Table 2 illustrates two scenarios. The first assumes the homeowner paid the vendors \$10,000 up-front; then he realizes a 30% or 50% reduction in his existing \$5,000 annual utility expense. The second scenario assumes the homeowner pays for the improvement in some agreed-upon ESPC with the vendors over five-years—with the same 50% reduction in annual utility expense and a 3.00% rate of inflation.





	Cost of Repair		10000	exp yr	\$5,000	reduction	\$1,500						
		inflation	1.03	new exp	\$3,500								
		NPV	0	1	2	3	4	5	6	7	8	9	10
30%	Scenario 1	2,795	10,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	Scenario 2	2,266	0	0	0	0		0	0	0	0	1,500	1,500
	Vendor (30%)	530	10,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	0	0
50%	Scenario 1	11,326	10,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
	Scenario 2	3,776	0	0	0	0		0	0	0	0	2,500	2,500
	Vendor (50%)	7,549	10,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	0	0
	Payback period for scenario 1 would be \$10,000/\$1,500 which is 6.67 years.												
	There is no payback period for scenario 2 due to not making any investment into the project.												

**Table 2. ESPC Scenarios**

Table 2 illustrates in Scenario 1 that if the improvement is fully funded up-front in Year 0, there is a positive Net Present Value on the investment for both the 30% and 50% reductions in utility expenses. Scenario 2 demonstrates with no initial investment, a positive Net Present Value on the investment for both the 30% and 50% reductions in utility expenses. The vendor would also benefit from assisting the homeowner with the improvements. It is a win-win situation. The homeowner does not have to “fully fund” the project and achieves the same result with an alternate form of financing. Today, many private companies and local governments implement ESPCs.

Within the government and many federal agencies, there are different points of view pertaining to ESPCs and their application in the budget. The first is that ESPCs should be scored at zero because they pay for themselves. The other is that the funds must be obligated in case of contract issues such as *The Anti-deficiency Act*. *The Anti-deficiency Act*, also known as 31 USC Section 1301(a), is one of the major laws in which the Congress exercises its constitutional control of the public purse. Thus, ESPCs continue to be debated, and their role within the budget is uncertain. Yet, as demonstrated above, ESPCs are clearly a viable solution to cut costs for the DoD’s facilities and assets.

*The Energy Policy Act of 2005* set new federal energy goals. The act states that one goal was to “cut energy usage by 2 percent per year from 2006-2015” (DoE, 2007). The federal government may not achieve this goal without improving existing conditions at its facilities or with its equipment. The budget continues to be strained due to the Global War on Terrorism, increased health costs, a need for social security reform, and other political issues. One means to cut existing costs without having an effect on the budget is the usage of ESPCs for existing facilities and equipment. Recently, a step in the right direction was made by the Air Force. On March 1, 2007, the Air Force awarded Northrop Grumman a contract with the same principles as the ESPC. The contract was for the initial \$12.5 million E-8C Joint Surveillance Target Attack Radar System (STARS) engine replacement. The contract defines the, “non-recurring engineering work required to replace engines on the E-8C Joint STARS aircraft” (Stratford, 2007). Other enhancements for the Boeing 707-based platform are scheduled with a similar contract. The Air Force decision was based on the Boeing 700-300C series aircraft refurbished by Northrop Grumman, which have performed much better than the Air Force E-8C. Thus, this has created an opportunity for the Air Force to maximize the benefits of the ESPC to improve

the E-8C's reliability, reduce maintenance costs, and make the aircraft more fuel-efficient—allowing less “in-air” refueling and allowing increased on-station time. Thus, both the contractor and the government benefit from the ESPC.

New technologies, especially energy-saving advancements, should be used when feasible in a world where prices continue to rise as resources continue to become scarce. United States companies should be provided an incentive to explore new technologies and processes to innovate and create savings which not only help them, but improve the efficiency of the government and, thus, benefit the taxpayer. If such were the case, ultimately the productivity of our country would increase, resources would be conserved, and the economy would grow while helping fund our government.

## Conclusions and Recommendations

### Recommendations

This research addressed only a limited number of the total available options to finance a capital asset. All factors being equal, the time-value of money dictates that payment of an asset up-front will necessarily be less costly than delayed payment. However, the analysis presented here has hopefully addressed several scenarios in which government agencies would be able to leverage their available resources and incorporate the private sector via some form of Public-private Partnership to achieve a cost-effective alternative to up-front funding. The current scoring guidelines in OMB *Circular A-11* provide a negative bias towards using alternative approaches to full-funding. In many cases, agencies are forced to seek alternative funding measures or do without the asset. Several recommendations to modify the current budget-scoring process and scoring guidelines in an attempt to promote improved economic efficiency in public projects are presented below.

### Scoring of Leasing

The crucial question in categorizing a lease is determining what constitutes purchase of an asset. Long-term leases that provide the government with ownership of the asset are scored up-front in an amount equal to the net present value of the future lease payments for the asset. Conversely, leases that provide the government with only partial use of the asset's economic life can be scored in annual obligations as an operating lease (CBO, 2003, p.viii). The scorekeepers apply strict criteria in determining between an operating or capital lease. The result, and intent of the guidelines, is that almost all DoD equipment is acquired via purchase or capital leases. The OMB guidelines for operating leases have two additional requirements to the four basic criteria used by the Federal Accounting Standards Board (FASB). These two requirements include:

1. There is a private-sector market for the asset.
2. The asset is a general-purpose asset rather than being for a special purpose of the government and is not built to the unique specification of the government as lessee (OMB, 2006, June, pp. 3-4).

These two rules are specifically designed to eliminate operating leases as a financing option for the procurement of military equipment. Table 3 outlines the criteria for Public vs. Private-Operating-Lease determination.





<b>OMB Requirements to be Considered an Operating Lease (Public)</b> (OMB, 2006, June, pp. 3-4)	<b>Basic Criteria in Lease Determination (Private)</b> (Lee, 2003, pp. 10-11)
Ownership of the asset remains with the lessor during the term of the lease and is not transferred to the Government at or shortly after the end of the lease period.	The lease transfers ownership of the property to the lessee by the end of the lease term.
The lease does not contain a bargain-price purchase option.	The lease contains an option to purchase the leased property at a bargain price.
The lease term does not exceed 75% of the estimated economic lifetime of the asset.	The lease term is equal to or greater than 75% of the estimated economic life of the leased property.
The present value of the minimum lease payments over the life of the lease does not exceed 90% of the fair market value of the asset at the inception of the lease.	The present value of rental and other minimum lease payments, excluding that portion of the payments representing executory costs, equals or exceeds 90% of the fair value of the leased property.
The asset is a general purpose asset rather than being for a special purpose of the Government and is not built to unique specification for the Government as lessee.	
There is a private-sector market for the asset.	

**Table 3. Public vs. Private Operating Lease Determination**

The stricter guidelines were adopted in 1991 in response to the frequent use of lease-purchases in the 1980s to acquire assets, including propositioned ships or buildings. The CBO cited four major concerns of the increased use of leasing that helped inspire the new guidelines. It asserts that leasing has the ability to:

1. Reduce the budget's ability to fully depict the Federal Government's financial commitments;
2. Undermine fiscal policy by circumventing controls such as limits on deficits and caps on discretionary spending;
3. Allow an agency to avoid facing the full costs of purchasing an asset at the time it decides to buy it, thus making acquisitions that are not cost-effective more likely; and
4. Raise the costs of some investments because a lease-purchase is, over the life of an asset, inherently more costly to the government than a direct purchase (CBO, 2003, p. ix).

We propose to limit the guidelines to the four basic criteria accepted in the private sector with one additional caveat. A fifth guideline would include a proposal that highlighted the following issues:

1. The estimated total use (years) of the asset by the government.
2. The reason as to why operating leasing would be preferred over direct-purchase, lease-purchase or other type of financing.

3. Explicitly address ownership options for the asset. Also discuss the probability the asset would be damaged in its use and ultimately be required to be purchased.
4. Salvage value for the asset at completion of the lease—discussing any outside markets for the asset to determine potential market value.

The proposal would be submitted to the OMB, CBO, and Congressional Budget Committees as part of the legislative process. If these new guidelines for operating leases were adopted, greater flexibility would be restored to the DoD in financing its requirements. The guidelines would not hinder Congress's ability to allocate financial resources effectively.

### Scoring of Alternative Financing

Alternative financing consists of almost any financing option or combination of options that can be used in lieu of conventional full-funding. The private sector has metrics such as profit or stock price that help motivate corporate executives in their selection of the most beneficial financing method for their company. Without these incentives, the federal budget process remains a delicate balance between agency needs and Congressional control of the purse. Current scoring guidelines are designed to provide the decision-makers in Congress with the most informative representation of current and future government obligations. The legislation also has the effect of biasing full-funding versus other forms of financing. Yet, in certain situations, the needs and resources of the government can be combined with the capabilities of the private sector to form a partnership that is beneficial to both parties. Public-private Partnerships represent the most practical financing method available that harnesses these capabilities and addresses the needs of the DoD.

Unfortunately, the financial details of Public-private Partnerships are typically unique and involve complex financial relationships, causing few useful precedents to be available to help predict the scoring outcome. The National Council for Public Private Partnerships (NCPPP) cites one of the major impediments in the budget scoring policy to be the ambiguity surrounding the current scoring guidelines (2007). The OMB scoring rules represent policy vice actual hard-fast rules and are intentionally vague to allow interpretation by the CBO or OMB. Reviewing the scoring determination through an open forum between concerned policies would not only clarify the intent of the rules, but also improve adherence to the scoring rules. The Council also asserts that scoring confusion could further be eliminated if an "Alternative Financing" committee was formed by the OMB to assist agencies that seek private-sector involvement (2007). The committee can be established independently from the OMB to eliminate any conflicts of interests or questions of neutrality.

Additionally, the scoring process would be improved if the scoring rules placed greater emphasis on economic efficiency rather than the determination of outlays. For instance, share-in-savings contracts that have outlays resulting only from the net savings to the government should be scored as budget neutral or have some other discount factor that reflects the financial benefits of the deal. Public-private Partnerships are particularly penalized in this manner as many benefits from these ventures do not have an explicit value that can be readily estimated. The inability to easily or accurately estimate these benefits causes them to be ignored in the scoring process. In these cases, representatives from the prospective Alternative Financing committee could provide their best estimate of the projected savings of private involvement—either by discounting the budget authority scored for the project or by including this dollar amount independent of the scoring estimate. In either manner, Congress would be informed of the benefits of the alternative financing. The current scoring rules are overly conservative and neglect to include the majority of the benefits of PPP in scoring budget authority.



## Conclusion

The consistency and transparency in the budget process that were the intent of the scoring guidelines also have the affect of altering the feasibility of alternative financing ventures. Currently, there are many opportunities to improve the aging infrastructure and reduce the lifecycle costs of a project through greater private-sector involvement. A major impediment to realizing this goal is the interpretation of the scoring guidelines by the CBO and OMB and the absence of legislation authorizing such private-sector participation. The government would benefit from either a revision to the current scoring guidelines or a more comprehensive interpretation of the current scoring rules. We assert that if these changes are implemented, then the soldiers and sailors in the field would have a better probability of being provided the equipment necessary to complete their National Security mission at a time when we are faced with ever-shortening supply of money during the Global War on Terrorism.

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- Financing DoD Budget via PPPs
- ROI of Information Warfare Systems
- Acquisitions via leasing: MPS case
- Special Termination Liability in MDAPs

### **Logistics Management**

- R-TOC Aegis Microwave Power Tubes
- Privatization-NOSL/NAWCI
- Army LOG MOD



- PBL (4)
- Contractors Supporting Military Operations
- RFID (4)
- Strategic Sourcing
- ASDS Product Support Analysis
- Analysis of LAV Depot Maintenance
- Diffusion/Variability on Vendor Performance Evaluation
- Optimizing CIWS Lifecycle Support (LCS)

### **Program Management**

- Building Collaborative Capacity
- Knowledge, Responsibilities and Decision Rights in MDAPs
- KVA Applied to Aegis and SSDS
- Business Process Reengineering (BPR) for LCS Mission Module Acquisition
- Terminating Your Own Program
- Collaborative IT Tools Leveraging Competence

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