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Case Studies in DoD Outsourcing

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As part of the ongoing Outsourcing Opportunities for the Navy study, CNA was asked to think about how to implement new outsourcing and privatization initiatives. Because DoD has substantial experience in relying on the private sector for goods and services, we chose to assemble some of those experiences and look for common lessons learned. This report presents recently completed case studies in training, housing, maintenance, and base operating support.

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Case Studies in DoD Outsourcing

As part of the ongoing Outsourcing Opportunities for the Navy study, CNA was asked to think about how to implement new outsourcing and privatization initiatives. Because DoD has substantial experience in relying on the private sector for goods and services, we chose to assemble some of those experiences and look for common lessons learned. This report presents recently completed case studies in training, housing, maintenance, and base operating support. Previous case studies on Navy outsourcing experiences can be found in [1, 2] and some additional implementation ideas are found in [3]. These include the outsourcing experiences at Jacksonville and NUWC (Keyport).

In previous reports, we have noted that competition produces efficiency and saves money, even when the competition is won by the in-house team. Thus, the most successful outsourcing experiences will be structured to foster competition and increase the number of real and potential bidders.

Contents

- Overview of Case Studies
- Implementation Tips
- Employee Issues
- Case 1. Outsourcing and Aircraft Readiness
- Case 2. Contracting for Helicopter Training and Maintenance
- Case 3. Army A-76 Lessons Learned
- Case 4. Marine Corps BOS Experiences
- Case 5. Lessons Learned: a Public/Private Venture

In the first part of this briefing, we give overall themes and implementation tips. In the second part, we discuss employee transition issues. The remaining sections give details of the case studies.

The goal was to study a variety of functions and services that had been outsourced or privatized. Thus, we have included cases from the Army and Marine Corps. We have studied training, aircraft maintenance, housing, and base operating support contracts, but we did not study any cases where the work was won by the in-house team. All these functions were associated with large-scale potential savings from competition in our earlier work [1]. The first case differs from the rest in that it looks for empirical evidence of the effect of outsourcing on maintenance quality. Cases 2 and 3 are Army experiences (both positive and negative). In the last two cases, outsourcing has been viewed as unsuccessful, and so we looked to see how things could have been improved or what made the experience negative.

Case Study Overview

- **Case 1. TA-4J O- and I-Level Maintenance**
  - Training squadrons switched to contractor maintenance mid 1980s
  - Did readiness suffer?
- **Case 2. Helicopter Training at Fort Rucker**
  - Pilot training and aircraft maintenance both contracted
- **Case 3. Army A-76 Lessons Learned**
  - TRADOC very aggressive in previous A-76 competitions
- **Case 4. Parris Island BOS Contract**
  - Two contractors unsuccessful; functions brought back in-house
- **Case 5. Susse Chalet BOQ at New London**
  - End of the Cold War made Navy rethink this long-term contract

Case 1. The Navy and Marine Corps used A–4 Skyhawk light attack jet aircraft for many years. (They are still used in places where they have not been replaced by the T-45.) The fleet maintained these aircraft in-house, but the training squadrons switched to contractor maintenance in the 1980s. We look at different readiness measures to see whether (a) contractors were cheaper than in-house personnel and (b) quality improved or deteriorated after switching.

Case 2. The Army has contracted helicopter maintenance and basic pilot training at Fort Rucker for the last 30 years. We were particularly interested in pilot training because this is a function which many would view as "core" and requiring a military background.

Case 3. The Army's Training and Doctrine Command (TRADOC) led many of the A-76 studies in the 1980s, and Fort Eustis implemented many of them. We looked to see whether the Army's experience varied from that of the Navy.

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- ➡ **Case 4. Parris Island BOS Contract**
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- ➡ **Case 5. Susse Chalet BOQ at New London**
  - End of the Cold War made Navy rethink this long-term contract

Case 4. Marine Corps Recruiting Depot in Parris Island, South Carolina, instituted a multi-function Base Operating Support (BOS) contract in the 1980s. Two contractors were used sequentially, but quality suffered and the functions were brought back in-house. Because other installations have had very successful BOS contracts, we looked to see why this experience was unsuccessful.

Case 5. The Navy has used public/private ventures to raise capital when military construction funds (MILCON) were scarce. In this case, the Navy contracted with the Susse Chalet hotel-chain to build and operate a Bachelor Officer Quarters (BOQ). But the decline in submarine students, among other things, has led to excess housing capacity in New London, and the Susse BQ is now viewed as a very expensive alternative to in-house quarters.

Overarching Implementation Questions

- **What makes for a successful experience?**
- **Were problems transitory or permanent?**
  - What corrections were required?
- **What should/could have been done in the beginning?**
  - Or, if it worked, what features made it work?
  - Why wasn't it done right (legal impediments, political, lack of information?)
- **What role can senior leadership play in bringing successes, not failures?**

We looked for common themes across different DoD experiences in contracting out because we wanted to identify outsourcing "best practices." In so doing, we hope to provide insights into implementing new outsourcing opportunities. Many lessons learned were unique to a particular case, and these we discuss in the sections describing the case studies.

Scorecard

Case	Function	Success?	Common?	A-76?
1	Aircraft Maint.	Yes	No	Yes
2	Helo Training and Maint.	Yes	No	No
3	Primarily Base Support	Yes	Yes	Yes
4	Base Support	No	Yes (with caveats)	Yes
5	BOQ Const. and Operations	No	No	No

This chart gives a quick reference of the different cases. The first column lists the number of the case study, and the second lists the type of function(s) involved. The third tells whether the outsourcing experience is perceived as successful or not. The fourth column tells whether this is a function that has been outsourced widely by the Navy. In this column, the entry for case 4 reads "Yes, with caveats," because (as we'll discuss in the case study itself) some of the subordinate functions were not commonly outsourced. Overall, the Navy has two large-scale, multifunction base operating support (BOS) contracts and many smaller ones. Also, the entry in this column for case 5 reads "No" because public/private ventures are relatively rare, and, while major construction projects are generally contracted out, BQ operations are generally kept in-house. Overall, there are five Navy BOQs in the United States that have some form of public/private partnership.

Many view the OMB A-76 (or Commercial Activities) process as a hindrance to outsourcing, and so the final column notes whether each case used the A-76 process. In general, the A-76 process must be used when converting a function from a public provider to a private one. An earlier report [3] outlines how this process could be improved, and so we have not focused on those problems for this report.

Transitory Problems

- **Learning-curve or break-in period for both sides**
  - Some problems could last the length of the first contract
- **Unresolved in-house morale problems may surface**
  - Switching from one contractor to another can be less disruptive because the employees move to the new contractor

In most every case, there was a learning-curve or break-in period when productivity suffered. This break-in period can be particularly severe if there were shortcomings in the performance work statement, in the source selection process, or in the contract itself. Problems in these areas may last the length of the first contract (and if the first contract term is quite long, as in a public/private venture, the problems will be expensive to correct). Best practices, such as using negotiated competitions that take bidders' past performance into account, and using performance-based contracts with some sort of mechanism for post-award responsiveness (such as award fees or performance bonds), can bring success. In addition, the Navy may want to integrate teams of contracting specialists and technical or functional experts early in the process. Sometimes problems arose when technical experts defined the requirements and wrote the performance work statement first and then passed it to contracts specialists for competition and source selection. Avoiding stovepiping, by involving contract specialists early in the process, can be more effective.

The in-house workforce may experience morale problems even after the start-date. Those problems may be more acute if the function is outsourced, but even workers who won an A-76 competition can be affected if their colleagues were laid off. Worker sabotage is one obvious problem. More serious problems can arise if disgruntled in-house workers are overseeing the contractor's performance. If those workers cause the contractor to fail, the government is liable for damages.

What Makes for a Successful Experience?

- **Getting support from CO and managers**
- **Outsourcing functions from the beginning**
- **Considering a range of alternatives**
  - Including in-house, no contract, direct purchase of services (e.g., hook up to power grid)
- **Giving workers/unions input to the process**

It seems obvious, perhaps, but successful experiences more often had the support of the installation Commanding Officer and function managers. There is a role for senior leadership, but decisions made at the top that did not have commitment from the local installation were generally not successful. One way to encourage that commitment is to make sure the incentive structure supports the desired outcome. For example, local commands could be allowed to keep a fraction of the savings achieved from outsourcing. Also, higher echelons could provide training and other resources to help institute the competition or outsourcing.

Other successful experiences came when the function was outsourced from the very beginning, so there was no "institutional memory" or transition from in-house to outside. (Also, outsourcing emerging requirements from the start avoids A-76 procedures).

Outsourcing sometimes gets blamed when in fact the problem is more fundamental. For example, if decision-makers think "I need X, and we'll hire someone to make it," they may fail to consider other (better) private-sector alternatives to X. For example, the government might decide to contract out operations of its in-house power plant when, in fact, buying power from the local utility was a better option. The type of product chosen could have been wrong.

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Remember that outsourcing provides two things. First, it provides cost visibility—the government learns (often for the first time) what it costs to provide a function. Second, it provides alternative suppliers—the government gets to choose the provider it wants. These are both important features whether or not a function is in-house or outsourced. However, many in-house functions have no cost visibility, or the true costs are not seen by the people making the decision. When that function is outsourced, it can look more expensive if the in-house costs were previously hidden. Government managers may not be aware of the total in-house costs, as well. For example, they may include contract management and oversight costs in their comparison and ignore the fact that in-house employees also are managed and overseen.

When work is being transferred from public to private, good employee transition plans are key. Employee morale will suffer as soon as the announcement is made, and the longer the process takes, the greater the impact will be. This may be the most damaging effect of the A-76 process. Because years can pass before a decision is made, and because another year can go by before the contractor starts work, the effect on in-house morale can be tremendous. This is the most important reason to streamline the A-76 process.

Implementation Tips

- **Conduct market research**
  - Brings prospective bidders and in-house providers into the process early
  - Provides guidance on how to bundle functions
  - Provides ideas about industry standards and practices
- **Recompete functions even if they remain in-house**
- **Focus on functions that can be removed easily from the process**
  - Bundling is important here, too

The Federal Acquisition Streamlining Act of 1994 encouraged using market research early in the acquisition process. Market research can consist of industry forums, Requests for Information (RFIs), circulating draft Requests for Proposal (RFPs), or simply walking the yellow pages. It can be a tremendously valuable tool in evaluating these questions: (1) Have I chosen the best alternative? (2) Have I bundled functions into a package that industry will be interested in bidding on? (3) Am I using industry standards and practices? Answering no to these questions will increase the probability of an unsuccessful outsourcing experience and/or reduce the savings you hope to achieve.

In earlier studies, we found that the savings persisted over time when the work was recompeted periodically. Traditionally, when an in-house team wins an A-76 competition, they are never reevaluated. Clearly, in-house functions need to be recompeted just as an outside contract would be. Moreover, in-house performers can be held to contract-like memoranda of understanding that lay out the work to be performed and include rewards for superior performance.

Implementation Tips

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Finally, it's important to be able to separate the function from the overall process. Many of the difficulties in outsourcing involved separating the labor used to perform the function from the capital plant and equipment required. For example, if the contractor is providing laundry services using the government's equipment, and the government has not maintained that equipment, who's at fault for nonperformance? Or if the motor vehicle repair is performed by contractors using government-furnished parts, who is responsible for a faulty repair? Bundling a function in a way that allows clear accountability and responsibility will make for more successful outsourcing experiences. Bundling functions together, or bundling a single function across a region, also can yield larger percentage savings, because it provides the greatest flexibility in using people across sites or functions. It also shifts some management functions to the "prime" contractor and provides a single point of contact for installation commanders.

Other Implementation Tips

- **Avoid proscribing a particular contract type or acquisition process**
  - A variety of types of contracts and performance measures are used successfully
  - There is no single optimal contract length
- **Traditional arm's length relationship is not necessarily optimal**

In trying to make the process simpler, policy-makers commonly offer guidance on what type of contract should be used or whether the source selection process should be sealed bid or negotiated competitive. Too often, such guidance is interpreted as mandates, and other alternatives are discarded. If, for example, contract specialists at headquarters issue guidance stating that firm fixed-price contracts are preferred for all commercial activities (unless shown otherwise), they could start to see a lot of unsuccessful fixed-price contracts come in from the field. It's important to leave options open so implementers at each site can pick the best alternative for them. Also, while most service contracts last for 1 base year plus 2 to 4 option years, longer or shorter contracts may be optimal. Longer term contracts will be required if the contractor must invest in assets or knowledge unique to that service or facility (e.g., running an obsolete system with no commercial equivalents, or building something that cannot be used by nonmilitary personnel). But long-term contracts will limit the government's flexibility as well, and should be entered into carefully. By changing the requirement to reduce those Navy-specific investments, the Navy can avoid the need for restrictive or inflexible contracts.

Lastly, the most successful government/contractor relationships come when the two view each other as partners, not adversaries. Fostering a "we/they" attitude will limit effective outsourcing.

What Role Can Senior Leadership Play in Bringing Successes, not Failures?

- **Provide the vision and inspiration**
- **Provide incentives**
  - Reward innovators
  - Choose the right people to implement change
  - Provide resource support (e.g., tools, training, and experienced help)
- **Smooth roadblocks (procedural or legislative)**
- **Look across regions and departments for bundling opportunities**
- **Establish transition plans for in-house workers**

Most of the recommendations on this slide are obvious, yet they have been unevenly implemented in DoD. If senior leadership is viewed as indifferent or passive about change, then nothing will change. At the base level, it's important that senior military as well as civilians support (demonstrably) the new regime.

It's also important to reward those who implement change effectively. One obvious way is to let sites keep a fraction of the savings that come from efficient operations. Another is to provide tools (like accounting system or software), training, and outside expertise. It's also very important to choose the right people to implement change, and this can be a tricky issue. The functional expert who has decades of experience in the old in-house system may not be the right person to implement the new.

Senior decision-makers are the right people to work at eliminating procedural or legislative roadblocks. If roadblocks cannot be eliminated entirely, pilot programs and waivers can help wear them down. Leaders also can bundle functions across regions or installations in ways not apparent to individual bases, thereby avoiding suboptimal outcomes.

Finally, worker transition plans and policies need to come from the top level. For example, OPNAV can give guidance on working with unions or on implementing priority placement programs. More on worker transition issues follows.

Employee Transition Issues

Outsourcing and competition often mean using fewer people to do the same job. The threat of civilian job loss is of concern to policy-makers, communities, and unions, as well as to employees, who may find themselves working harder at lower grades, transferred, or let go. Well-publicized strikes at Yale, General Motors, and McDonnell-Douglas do little to inspire confidence that employee-management relations can survive competition and outsourcing. The Navy hasn't been immune from these charges. Workers and managers at NAS Jacksonville were found to have sabotaged the performance of a new public works contractor because they were resentful after seeing friends and coworkers laid off. The Navy paid damages [4].[1]

These high-profile cases are not representative. Still, competition and outsourcing create many challenges for both managers and employees. Drawing from our case studies and other sources, we describe the numbers and types of employees whose jobs are likely to be competed or outsourced, we discuss the magnitude and consequences of job loss for employees, and we review programs to assist workers at risk for displacement. In addition, we identify management strategies that can improve the chances of a successful experience.

1. Several years later, NAS Jacksonville management reported good working relationships with a new contractor. See [2].

What Problems Can Be Expected?

- **A period of poor morale and low productivity both during and after competition**
  - Even when work stays in-house
- **Some workers are at risk for prolonged unemployment and lost earnings**
- **Historically, job loss has been small**
  - Less disruptive than base closure

Competition and outsourcing create a number of predictable problems for employees and managers alike. Managers should be prepared for a period of low productivity and poor morale both during and after an A-76 competition, whether the function remains in-house or not. In our case studies, we sometimes found evidence of a "break-in" period characterizing initial contractor performance. Poor morale, lack of motivation, or even sabotage on the part of in-house employees may be a contributing factor. Even if employees welcome the change, they may experience their own period of adjusting to new people and new methods.

Competition puts employees at risk for job loss. Many transfer to different federal jobs, but others may not be willing or able to relocate. Even when the work remains in-house, employee commitment and motivation can wane. In its study of DoD competitions for base operating support (BOS) functions, LMI found that "the thrill of having won a competition is short-lived, and employees are soon disenchanted when they find themselves working harder than ever for the same or sometimes lower pay [5]."

Historically, job loss from competition and outsourcing has been small. Most A-76 competitions, for example, have involved fewer than 25 people, and half of those competitions are won by the in-house team. Also, when work is contracted out, it is still performed locally. Thus, we are not dealing with something as difficult or traumatic as an industrial plant closing or a Base Realignment and Closure (BRAC) shutdown.

What Makes for a Successful Experience?

- **Management supports process and conveys support to workforce**
- **Communicate early and frequently with workers and unions**
- **Establish goals and incentives when in-house team wins**
- **Ensure adequate transition and availability of career resources to workers at risk for job loss**

A number of factors contribute to a successful experience: communication with employees and unions, creating the right goals and incentives, and the availability of career resources to ensure smoother transitions into government, contractor, or other private employment. These factors mitigate problems and increase the chances that the full benefits of competition will be realized.

We'll give more details about these general proposals in what follows.

Communicate From the Start

- **Impediments to communication**
  - Need for secrecy when writing Performance Work Statement (PWS), developing in-house bid
  - Concern that early communication will only prolong bad morale
- **Inform employees during initial planning period**
  - Employees want accurate information about the probability of job loss
  - Balance the need for secrecy about in-house bid with candor

At first, early communication might seem counterproductive. However, Army officials who had managed A-76 studies wished they had informed employees about the process and possible consequences more frequently and earlier than they had. Poor communication contributed to an adversarial atmosphere that reduced morale both during the studies and up to two years after completion. It also gave employees serious misperceptions. Army employees believed that an in-house win would preclude a RIF or that a contract win was inevitable. Many were surprised by the number of transfers and downgrades that the Most Efficient Organization (MEO) entailed [6]. Other government managers find that constant two-way communication improves morale during a downsizing. Many also find that employees need an accurate assessment of the probability of job loss. Managers may be tempted to understate the risks in an effort to keep the best people. However, candor can improve morale by giving employees the information they need to make intelligent career decisions [7]. Management needs to convey support for the process as well.

In one report, Army civilians said that managers were excessively secretive during A-76 studies. One reason was fear that the in-house bid would leak out. Managers should develop a strategy for revealing as much information as possible without jeopardizing the integrity of the competition [6].

Establish Goals and Incentives When the In-House Team Wins

- **Use the MEO to benchmark performance standards**
- **Use MOUs to establish goals**
- **Distribute a share of savings to employees**
  - However, these programs are not available to many government managers

Some organizations, like the Indianapolis municipal government, have spurred competition by allowing workers to keep some of the savings they achieve. Employee involvement can be critical where the work process has been poorly documented and the true costs hidden. Tools like profit sharing, productivity gain sharing, and performance bonuses are often used to reward efficiency in the private sector.

Some organizations, like Indianapolis, use Memoranda of Understanding (MOUs) to set standards for the in-house team. MOUs are like agreements with contractors, specifying performance goals, contingencies, and penalties for nonperformance. Clear information about performance, where it had been absent before, can motivate employees and raise productivity.

However, many of these incentives are not available to government managers. The Navy Department, for example, suspended its Productivity Gainsharing Program in 1993 in response to evidence that a number of installations had paid out excessive or unsubstantiated bonuses [8]. Savings from competition are easier to measure than periodic productivity improvements, however, and are easier to defend. Installation managers can distribute bonuses to employees who contributed to a winning bid or who raise productivity after the competition. Such bonuses offer employees an incentive to seek out ways to save costs.

Using Unions Constructively

- **Unions often resist outsourcing**
- **But they can also contribute**
  - In the past, they have helped job search efforts
  - Unions voice legitimate employee concerns
  - Unions don't like outsourcing but may support A-76

When a union represents the employees whose jobs are competed, management faces additional challenges. Union bargaining power is related to the size of its membership and to the ease with which management can replace the employees it represents. Competition and outsourcing challenge these pillars of union bargaining power. For this reason, unions may present strong challenges to the process. At NAS Jacksonville, for example, the union held rallies in the community to protest the outsourcing [4]. Despite—or because of—the potential for labor strife, installation managers should attempt to work with unions from the beginning. Union officials can voice legitimate employee grievances and concerns that employees themselves might be unwilling or unable to express. For example, union officials at NSWC Louisville brought pension portability issues to DoD's attention as part of the privatization plan. At both Louisville and Philadelphia, unions were involved in setting up and working the outplacement centers.

According to officials of the American Federation of Government Employees, the union does not support outsourcing but accepts its growing importance and supports A-76 competitions (because in-house workers get to compete) rather than outsourcing directly.

CNA Estimated the Functions Yielding Large Civilian Savings

- **Engineering and Professional Services**
- **Building/Structures—Nonfamily Housing**
- **Base Supply Operations**
- **Motor Vehicle Operations**
- **I-level Ship Maintenance**

To begin to identify which Navy civilian employees will be affected, we used the CNA competition model to rank the 40 functions yielding the greatest civilian savings. (See table 1.) The list does not include functions that are unlikely to be competed, such as guard services, health services, and depot maintenance. Details of the model are in [1]. The full ranking is shown on the next page, along with the average number of civilians and percentage of military, civilian, and contractor personnel employed in those functions in 1995. Here, we have listed the top five functions. In devising this list, we excluded UICs that have been scheduled for closure.

Most of the 40 functions that yield the most civilian savings fall into the Services (particularly Business and Professional Services) and Transportation/Utilities (TU) industries. Some functions are in the construction trades or manufacturing. The top 40 functions represent a wide range of skill levels. Many workers in Base Supply Operations are likely to be less skilled. Engineering Services and Heating Plants and Systems workers are likely to be relatively highly skilled. Often, functions with highly skilled workers are capital-intensive, but this is not always the case.

The function that would yield the most savings if all civilian billets were competed is Engineering and Technical Services. Another service that would yield high savings is RDT&E support. Examples of TU functions with high potential savings include Motor Vehicle Operations (ranked 4), Heating Plants and Systems (ranked 12), and Ocean Terminal Operations (ranked 16).

Table 1. Functions Yielding the Most Total Civilian Savings

Rank[a]	Function type and name	No. of civilians per UIC	No. of total civilians
	Technical Services		
1	Engineering and Technical Services	88	3,410
7	RDT&E Support	204	2,860
8	Sys Design/Develop & Prog Services	26	2,500
10	Acceptance Testing	74	890
14	Data Processing Services	9	1,200
33	Architect Engineering Services	8	230
38	Special Studies and Analyses	9	340
	Maintenance of Real Property and Construction		
2	Nonfamily Housing	59	5,490
15	Family Housing	8	400
	Intermediate Maintenance		
5	Vessels	89	1,960
20	Special Equipment	58	580
26	Armament	12	360
32	Aircraft	13	430
37	Electronic and Communication Equipment	5	240
	Social Services		
11	Other Morale/Welfare/Rec Svcs	20	1,640
13	Family Services	20	1,630
	Base Support		
3	Base Supply Operations	16	1,990
4	Motor Vehicle Operation	19	1,800
6	Storage and Warehousing	40	1,380
9	Admin Support Services	9	1,440
12	Heating Plants and Systems	25	1,140
17	Motor Vehicle Maintenance	14	760
18	Electrical Plants and Systems	20	760
19	Food Services	4	330
21	Other Services or Utilities	16	370
22	Telecommunication Centers	8	430
23	Custodial Services	3	430
29	Audiovisual/Visual Info Serv	5	450
30	Installation Transport Service	17	360
34	Water Plants and Systems	9	320
39	Air Cond/Refr Plants (> 5 Ton)	7	330
40	Administrative Telephone Services	4	180
	Training		
24	Training Development & Support	10	460
25	Grad Education	311	620
28	Officer Acquisition Training	6	470
	Other		
16	Ocean Terminal Operations	87	960
27	Water Transportation Services	11	490
31	Other Nonmanufacturing Ops	18	410
35	Bulk Liquid Storage Ops	14	300
36	Ordnance Equipment	135	270
	Average and total civilians	**38**	**40,610**

[a] Rank refers to the estimated savings from competing civilian billets. Number 1 is high, i.e., the highest estimated civilian savings.

What Happens to Employees?

- **On average, competitions involved 24 civilian jobs**
- **About 82% of Navy outsourcings resulted in some job loss**
- **The mean number of billets abolished is 15**
- **Among workers who lost positions:**
  - 34% were regular employees who separated
  - 14% were temporary employees who separated
  - 38% transferred to another government job
  - 12% retired
  - 3% joined the winning contractor

The number of jobs that will be targeted in competition, and the likely scope of job loss, determine demands on career services and influence overall morale. The Navy competition data report civilian employment prior to competition. The data also identify what is expected to happen to civilian jobs once a competition is completed. When a contractor wins a competition, each site reports the expected number of separations, intergovernment transfers, and retirements, but we don't know what actually happened. Unfortunately, similar projections are not reported when the work stays in-house.

Navy competitions have involved a range of civilian positions, but most competitions have been very small. The average number of civilian billets across all competitions examined (some were omitted for lack of data) is 24, although some competitions involved hundreds of jobs. Bundling functions reduces costs; but, during a competition, it may also put extra demands on career services or make poor morale more widespread.

While most competitions entail some job loss, the number of displacements was expected to be small, and few regular employees were expected to separate. One half of the employees are expected to either retire or transfer to another government job.

It's important to remember that displaced in-house workers have the right of first refusal for jobs with the winning contractor, even though few have traditionally used that right.

Consequences of Job Displacement in Industry

- **Unemployment**
  - For the first year, displaced workers are more likely to be unemployed than others
  - After one year, displaced workers are as likely to be unemployed as others
  - California Aerospace workers are unemployed slightly longer than others
- **Earnings loss**
  - Half earn less in their next jobs; half earn more or the same
- **Individual consequences depend on skills, education, industry, health, etc.**

What happens to workers who are displaced in the wake of a competition? This is a difficult question to answer because DoD cannot track former employees. We surveyed studies on job displacement to predict the consequences of displacement for federal civilian employees.

Unemployment. Up to one year after losing their jobs, displaced workers are more likely to be unemployed; after one year, displaced workers are no more likely than other workers or job seekers to be unemployed [9]. A RAND study of California aerospace workers showed that they collected unemployment insurance for slightly longer (about one week) than other durable goods manufacturing workers. These workers are highly skilled, but the industry contraction probably contributed to the slightly extended unemployment spell [10].

Earnings. Recent data published by the Bureau of Labor Statistics show the earnings of displaced workers who were reemployed in full-time jobs one to two years after displacement. Forty-seven percent earned less than they did in their previous jobs; 53 percent earned the same or more. The median reduction in earnings was -8.2 percent [11].

Poorly educated workers, those with a long tenure with their employers, and those displaced from jobs in declining industries or occupations are at greatest risk for long-term unemployment or earnings losses [12].

How Will Federal Employees Be Affected by Outsourcing?

- **No definitive answer, but...**
  - Industry is healthy
  - Business and professional services workers fare relatively well
  - DoD outplacement programs are successful
- **Nevertheless, some workers will be displaced**
  - Transportation/Utilities workers have greater earnings loss
  - Highly tenured workers remain unemployed longer

We would expect federal civilians displaced by competition to fare better than other displaced workers for several reasons. Many displaced workers in the private sector are victims of industry restructuring. Steel, automobile, and other manufacturing workers who lost jobs in the early 1980s suffered significant losses, in part because their industries were declining and their skills were outdated [12]. Job losses due to outsourcing and competition are different: generally, they would not occur *unless* jobs for similarly skilled workers existed in the local labor market.

As we have seen, most of the functions with the highest total civilian savings fall into two broad industry categories: Services (Business and Professional Services) and Transportation/Utilities (TU). Service workers fare better than average after displacement, suffering fewer earnings losses. Earnings losses in TU tend to be more severe than average, whereas service workers fare better than average. Therefore, job assistance programs may be of greater benefit to TU workers—though an assessment of local labor market conditions, unionization, and area wages ultimately will determine this.

DoD workers have access to a number of assistance programs, which have so far kept RIFs to a minimum. We review these programs in the next two slides.

Job Transition Programs Available to DoN Employees

- **Placement**
  - DoD's Priority Placement Program
  - Voluntary Separation Incentive Pay Exchange
  - Defense Outplacement Referral System
- **Early retirement and severance pay (VSIP)**
- **Training, search assistance, and other support**
  - Large installations have career centers
  - Other services available off-site in most locations

We have seen that displaced workers are at risk for longer spells of unemployment and earnings losses. However, DoD is better prepared than many other government agencies to assist employees. DoD programs have been very successful in minimizing involuntary job loss. For example, 40 percent of employees who were targeted for RIFs from depot maintenance facilities found other DoD or federal jobs through DoD placement programs. Only 3.4 percent were actually RIFed. Other employees leave with severance pay. In FY 1995, 39 percent of the Navy's downsizing requirement was met with separation pay or early retirement.

The 30-year old DoD Priority Placement Program (PPP) gives employees hiring preference in other DoD or federal jobs. The program is extremely successful, if costly [13]. DoD registers employees for the program once they are targeted for a RIF. In FY 1995, 40 percent of registered employees were placed, but the rate varies with each year's downsizing goal. The OPM's Workforce Restructuring Office is managing an effort to install programs similar to the PPP throughout the Federal Government [7]. Another placement service, the Defense Outplacement Referral System, is an electronic database of federal employees that can be accessed by other employers.

Some resources are available on large installations. Most have on-site career centers that are available to civilian as well as military personnel.

Augmented Efforts To Promote Smooth Transitions

- **BRAC efforts to reduce unemployment included:**
  - One-stop career centers on-site
  - Public-private partnerships
- **Are these strategies workable for outsourcing?**
  - New legislation may be needed for funding
  - One-stop career centers may not be cost-effective, unless bundling results in a large number of affected employees
- **Consider outsourcing training/placement services**
  - Allows for on-site services on an as-needed basis

A previous CNA study documented transition efforts during the Mare Island, Philadelphia, and Charleston Naval Shipyard closures [14]. Congress amended the Job Training Partnership Act to make additional funds available to assist displaced workers. The funds were jointly managed by the federal and state agencies with the participation of Private Industry Councils. Their purpose was to augment existing job programs. "One-stop shopping" allowed workers to search while still employed and to take advantage of pooled resources for training, job banks, skills assessment, financial counseling, childcare, and other support.

On the one hand, one-stop shopping is unlikely to be cost-effective to deal with outsourcing-related job losses, simply because so few employees actually lose jobs. And new legislation *may* be required to provide such services.

On the other hand, it's important to ensure that potential job losers from outsourcing don't fall through the cracks. PPP placement depends increasingly on willingness to relocate [13]. Managers need to assess the availability and orientation of career resources at their installations and in the local area. Many public and private organizations, including the Army, outsource career services during layoffs. This allows for cost-effective flexibility. Outsourced career services can be brought on-site as needed.

The GAO has not documented the effectiveness of these placement programs [13], and, in general, the effectiveness of training and search assistance programs are a subject of disagreement among researchers.

Pension Portability

- **The old government pension system is not portable**
  - Inhibits employee transition to contractor employment
  - Creates a double bind for the employee

A number of highly tenured government workers are covered by the old pension system, the Civil Service Retirement System. The old system was a defined benefit plan in which benefit levels were related to years of service. Moving to a new pension plan can entail a big financial loss to employees who have accumulated substantial tenure with the government but who expect to work for many additional years. All employees who entered the civil service after 1983 are covered by the Federal Employee Retirement System or the Thrift Savings Plan, and so they do not face this problem.

For example, at NSWC Louisville and NSWC Crane, which are privatizing their in-house workers and facilities, some workers find, or have found, themselves in this situation. Similar concerns arise at Fort Rucker; officials there told us that the lack of pension portability makes workers reluctant to accept work with contractors and to seek transfer or early retirement instead. DoD is working on this issue on a case-by-case basis.

Fort Rucker Case Study

The Navy can learn a lot from the outsourcing experience of the other services. To that end, we visited Fort Rucker, the Army's main aviation training site, where the Army contracts pilot training and training-aircraft maintenance. We spoke with the staff there about their experience contracting these functions and about their recent experience with A-76 competitions.

Overview

- **Fort Rucker has successfully contracted for pilot training and aircraft maintenance**
- **Other functions are competed as well**
- **They confront the same pressures as the Navy**
  - Upper-echelon pressure to find outsourcing savings
  - Lack of in-house expertise in outsourcing
  - Poor incentives
  - Concern about government employees

Fort Rucker is the Army's main aviation training base. For about three decades, contractors have run primary pilot training and maintained the training aircraft. The base is satisfied with the quality of the services provided under the contracts and thinks of this as the natural way to do business.

The base conducted A-76 studies throughout the 1980s and in the first years of this decade. As in the Navy, the program has been on hold for about 5 years. Most base support functions are still retained in-house. Fewer functions appear to be contracted out at Fort Rucker through the A-76 process than at the typical Navy base. We don't know if that's due to policy differences or to natural variation in the outcome of competitions. One relatively large contract, competed in 1991, has brought savings of about 40 percent.

Currently, there is pressure from Army leaders to find additional outsourcing savings. The A-76 office at Fort Rucker is reluctant to start because it doesn't have enough trained personnel to do the studies. At the installation level, there are no incentives to encourage more competition, and individual bases are not volunteering billets for increased competition. After several years of downsizing, people are asking whether any additional savings are available and how employees will be affected if contractors win.

Aircraft Maintenance Contract

- **The maintenance contract has been in place more than 30 years**
  - The Army is satisfied with quality
  - 15 bidders in last competition
  - Wasn't an A-76 competition
- **1,700 employees**
  - DOL wage rates are not out of line
- **Cost-plus contract with incentives**
  - Contract type is tied to safety concerns

Maintenance of training helicopters has been contracted out at Fort Rucker for more than 30 years, and the base is satisfied with the quality of the services they receive. The contract is worth about $80 million and is recompeted every 5 years. The last competition drew 15 bidders and was won by Dyncorp.

About 1,700 people work under this contract (down in recent years as training loads have been reduced). Although different contractors have won over the years, the employees (who are unionized) have generally remained in place. In the past, some were concerned that Department of Labor (DOL) mandated wage rates (under the Service Contract Act) might be too high in rural areas. Fort Rucker is in a rural and fairly isolated area, but DOL wage rates have not been out of line for this or other contracts on-base. The government pay scale is one factor in setting the contractor rates.

The helicopter maintenance contract is a cost-plus contract with incentives. Because of safety issues, the base staff is more comfortable with a cost-plus contract; they believe a fixed-price contract might encourage a contractor to conduct less maintenance.

Pilot Training Contract

- **Pilot training has been contracted for 30+ years**
  - 22 weeks of primary training
  - Classroom and flight instruction, 335 employees
- **Quality is high**
  - Experienced, veteran pilots
  - One default
  - "Greening" is not an issue
- **Flexible response to shifting requirements**
  - 30/60 day notice for training load decrease/increase

Contractor flight instructors have taught the primary phase of Army pilot training for more than 30 years. Primary training includes 22 weeks of instruction—2 weeks of pre-flight, 12 weeks of primary, and 8 weeks of instrument training. The instruction includes both classroom and flight training throughout the last 20 weeks of the course. About 335 employees are now working under this contract—297 of them are instructors.

The command is completely satisfied with the quality of pilots coming out of this phase. In the early years of the contract, many of the instructors were Vietnam veterans. Today there are fewer veterans, but all the instructor pilots are experienced and dedicated. As an example, during the program's one default, the instructor pilots continued to work without pay for a week until a new contractor was chosen. One concern is that new officers need more military oversight during their early careers to remain "green," but that hasn't been a problem for the command at Fort Rucker.

The contract has allowed the Army to respond quickly to changes in the training workload. The contract requires the Army to give a 60-day notice when it needs more instructors and a 30-day notice when it needs fewer. With military or Department of the Army civilians, it takes much longer to respond to changing needs.

Pilot Training Contract (cont.)

- **Combat skills/advanced training remains in-house**
  - 15% of advanced flight instructors are civilians
- **Fixed-wing training is a turnkey operation**
  - Contractor provides aircraft

The second phase of training, which focuses on combat skills, is defined as inherently governmental and remains in-house. Army officials emphasized the importance of having military personnel conduct this type of training. Most of the training is conducted by Army officers who rotate through the training command quickly to maintain a close link between operational and training units. Surprisingly, 67 of these instructors, about 15 percent, are civilian Army employees.

A contractor also conducts fixed-wing training at Fort Rucker. That is a smaller turnkey operation. The contractor supplies both the aircraft and the instructors. Because the contractor has a big investment in aircraft, the government incurs greater penalties when training loads are reduced during the contract period.

Recent CA Studies Have Been Completed

- **Training services contract (AV support)**
  - Close to 40% savings in contract
  - MEO savings of 17%
- **All 72 original employees were placed**
  - Some were downgraded
  - Only one temporary employee joined the contractor
  - It may be harder to place employees today
- **Base support competition stayed in-house**
  - About 20 percent savings
  - Two other studies were cancelled

Fort Rucker completed several A-76 competitions in 1991. A large training services unit (providing audio-visual support to trainers) was contracted out. Savings from the original baseline were about 40 percent. The in-house bid would have produced about 17 percent savings although that wasn't enough to retain the work.

All 72 employees were placed within Fort Rucker although some were downgraded when they changed positions. Only one temporary employee joined the contractor; this caused some difficulty for the contractor who expected to hire many of the existing staff. Apparently, government tenure, which included seniority and pension rights, was of great value to the existing labor force. The installation staff expects that it would be much harder to place employees locally today given recent downsizing. Civilian personnel are down by about 900 in the last 6 years, more than a 30-percent decline.

An A-76 competition for the Director of Logistics (for base support functions that employed about 400 people) was completed in 1991, about 7 years after the announcement date. That work remained in-house. There were 20-percent savings from the original baseline cost.

Two other cost comparisons for direct conversion were canceled, one as a result of the 1991 moratorium and the other when preliminary estimates indicated savings of about 10 percent—which is below the threshold for contracting out.

Different Contract Types Have Been Used

- **Cost-plus with award fees for aircraft maintenance**
- **Fixed-price with awards for most others**
  - Training contract (and other large contracts) are generally negotiated contracts
- **Sealed bid contracts include a certification phase**
  - Screens out unqualified bidders

Fort Rucker uses multiple contract types. Its largest contract, for helicopter maintenance, is a cost-plus contract with award fees based on performance. The Army staff is more comfortable with a cost-plus contract because demand is variable, and it wants the contractor to focus on flight safety.

The Navy, on the other hand, is satisfied with using a fixed-price contract to maintain some of its training aircraft. The Navy's contract includes performance measures, like the mission capable rate, to ensure proper maintenance. For more details, see the TA-4J case study.

Other contracts at the base are fixed-price. The larger contracts are generally negotiated. Formal source selection boards operate for the major contracts.

The installation awards sealed-bid contracts. Even in those cases, however, the staff conducts a responsibility study to ensure that the lowest bidder is capable and responsible. That ranges from simple credit checks and phone calls to references to visits to prospective contractor facilities. As a result, there have been few problems with unqualified contractors.

New Initiatives at Fort Rucker

- **The Army has an outsourcing goal with a fair share to TRADOC (~4K)**
  - Bases are asked to volunteer billets
- **Fort Rucker is reluctant to offer up billets**
  - Lack of trained staff to create PWS, design MEO, and conduct the competition
  - 18-month window is difficult to meet
  - Base retains more of the savings

The Army faces the same issues as the Navy in its effort to attain savings from competition. It plans to compete about 18,000 infrastructure billets. The Army's training and doctrine command (TRADOC) received its fair share goal of about 4,000 billets. TRADOC has asked its bases to offer a list of billets for new A-76 studies.[2]

Fort Rucker and the other training bases have been reluctant to offer up functions for competition. No staff positions have been set aside to conduct the competitions, and most of the personnel who ran the competitions at Fort Rucker in the 1980s are no longer with the base. People we spoke with said they need trained personnel to help create the work statements and design the MEO plans. They're concerned that the new 18-month limits for single-function studies will be difficult to meet, particularly in the case of negotiated contracts.

Competition studies are time consuming and painful for current personnel, win or lose. The installation bears the costs, but the benefits accrue to the Army as a whole. The Army may allow installations to keep as much as 50 percent of the savings, but the policy has not been settled. Also, no one knows how long those savings can be retained.

2. During the 1980s, Army headquarters identified functions for the bases to study under the A-76 program.

Fort Rucker's Concerns

- **Do outsourcing savings still exist after recent downsizing?**
- **Lack of 'trained' personnel to support functional units in PWS/MEO stage**
- **Lack of incentives**
- **Implementation questions**
  - Experience with property accountability
  - Morale issues

In our discussion at Fort Rucker, the staff was concerned about the new round of competition. This slide summarizes some of those concerns.

They recognized that the A–76 program had produced savings in the past, but they wondered whether similar savings were available today in light of recent reductions in staff. That raises a question of whether Fort Rucker, and the infrastructure throughout DoD, has become more efficient or has it simply become smaller because budgets have declined.

Although A–76 competitions have been conducted in the past, the program has been dormant for several years. The staff is concerned about climbing the learning curve all over again. New A–76 guidelines have reduced the time allotted for studies, creating concerns about their ability to run the competitions effectively.

The staff at Fort Rucker faces the same dilemma as those at other sites. Competition is costly in terms of the effort required and the effect on morale of current employees. If they receive no rewards from the savings generated, they are reluctant to volunteer more billets than are absolutely necessary.

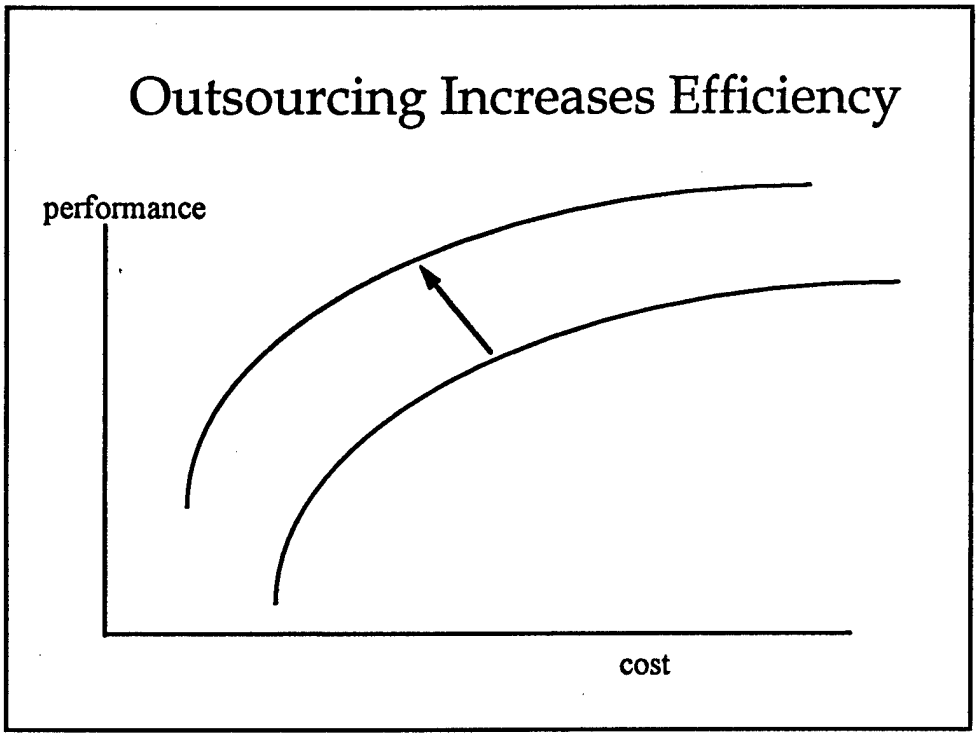
The staff's recent experience in contracting out the training support function offered other insights. They experienced some problems in accounting for government-furnished equipment (GFE). Also, personnel about to lose their positions were not overly cooperative with the winning contractor. The staff noted the importance of having management pay attention to these issues.

A Comparison of Contract and Navy Maintenance

The Navy Aviation Example Using TA–4J Skyhawks

We now turn to a Navy maintenance contract. We evaluate the maintenance functions of the Navy's advanced jet training pipeline, focusing on the TA-4J Skyhawk aircraft. This is a particularly interesting case because it allows us to look at rough indicators of both quality (performance) and cost. We chose this jet because there is a long track record of data for both in-house and contracted maintenance. This maintenance work was won by a contractor in an A-76 competition. The contractor's winning bid was about 20 percent lower than the in-house bid, after taking contract management and competition costs into account.

A previous CNA study [15] found that the material readiness of surface ships after depot maintenance was not greatly affected by whether the work was done in a public (Navy) yard or a private yard. This work somewhat complements that research. Here we examine ogranizational- (O-) and intermediate- (I-) level maintenance for aviation.



In considering these lessons, remember that the expected effect of outsourcing is an increase in efficiency (also termed productivity). This is an increase in the performance available at any particular cost or, equivalently, a decrease in the cost of attaining a specified performance. This effect is shown by the upward/leftward shift in the curve.

Whether this increased efficiency will take the form of lower cost or higher performance or some combination depends in part on how the contract is written.

Lessons Learned

- **There was a break-in period during the transition from in-house to outside**
- **After this period, the contractor performed as well as or better than in-house performers**
- **Cost savings continue in subsequent contracts**
- **Productivity increased after an initial break-in period**
- **No break-in period was observed when one contractor took over from another**

There were five lessons learned from this case study:

There was a long break-in period after the initial contract went into effect and the contractor took over from the in-house team. During this period, performance was not as high as previously.

Once the break-in period was over, the contractor performed at least as well, if not better, than the in-house team.

Cost savings were sustained (or even increased) in subsequent contracts, even if there is a change in contractors.

Productivity, measured as performance per unit cost, increased after an initial break-in period during which productivity was lost.

No break-in period was observed when one contractor took over from another.

Background

- **A–4 Skyhawks are (were) used in**
  - Training commands (TRACOMs)
    - Switched from in-house to contract maintenance
  - Fleet squadrons
    - Maintained in-house exclusively

A–4 Skyhawks are single-seat, single-engine light attack jet aircraft flown by the Navy and Marine Corps. They entered service in the early 1960s and were flown extensively during the Vietnam conflict. Because of their exceptional handling qualities, a version was adapted to serve as the Navy's advanced jet training aircraft, and they were flown for many years by the Navy's Flight Demonstration Unit (the Blue Angels). The airframe has been retired from its primary role of an attack aircraft, although it is still flown in smaller numbers in the fleet, primarily as an adversary aircraft at commands such as Top Gun. The TA–4J still serves in the training command at NAS Meridian, Mississippi, but is being replaced by the T–45 Goshawk.

We chose the A-4 as the test airframe for this comparison because ample data exist before and after contracted maintenance went into effect at each training wing.

All information was compiled from the CNA Aviation Information Digest (AID) database, which is a compilation of the NAMSO 4790.A7936, *Aviation 3-M Data Report.* We took the training data directly from training squadron reports before the maintenance shift, and from training wing reports after the change. These data are useful because they measure readiness regardless of who performs the work. This is not an outsourcing database.

Has TA-4J Readiness Been Affected by Outsourced Maintenance?

- **Two-year transition at three bases**
- **Compared training squadron data before and after the change**
- **Fixed-price contracts are used**
  - Three different contractors have won

Has the change to outsourced maintenance been beneficial or detrimental to the quality of aircraft maintenance provided to the training commands, or has there been any effect at all?

The comparison within the training command was a detailed look at trends before and after the switch was made to outsourced maintenance of the aircraft. We tested the hypothesis that the mean of one data set was equal to the mean of the other.

The conversion to contract maintenance began in July 1986 with Training Wing Two and concluded in June 1988 with Training Wing Six. The contract actually covers the O- and I-level maintenance of the A-4s and T–2 Buckeyes flown by the training commands. It is a fixed-price contract consisting of 1 base year plus 4 option years. The TA–4J portion of the FY 1995 contract is estimated at about $11.3 million. The aircraft maintenance has been competed three times, with Lockheed winning the initial bid, followed by Grumman, and now UNC Aviation Services, which signed the current contract on 31 August 1993.

Measuring Cost and Quality Using 3M Data

- **Quality measures**
  - Full mission capable
  - Mission capable
- **Cost measure**
  - Direct maintenance man-hours per flight hour

In this study, we used 3-M data, which are maintenance statistics reported monthly by all aviation commands to the Navy Aviation Maintenance Support Office. All data are compiled from Maintenance Action Forms, which are comprehensive accounts of all maintenance completed on each aircraft in a command. Examples of some of the statistics kept are percent full mission capable, cannibalizations per 100 flight hours, and total number of AIMD parts processed. These data are a known quantity throughout the fleet, can translate between communities, and are easily accessible.

For this case study, we studied the following organizational-level data in detail:

- Full mission capable (FMC)—Percent of time the aircraft is fully ready, with no system degradations.
- Mission capable (MC)—Percent of time the aircraft is ready to fly, and not degraded due to system discrepancies.
- Direct maintenance man-hours per flight hour (DMMH)—The amount of organizational-level maintenance completed for every flight hour. Lower rates can show more efficiency.

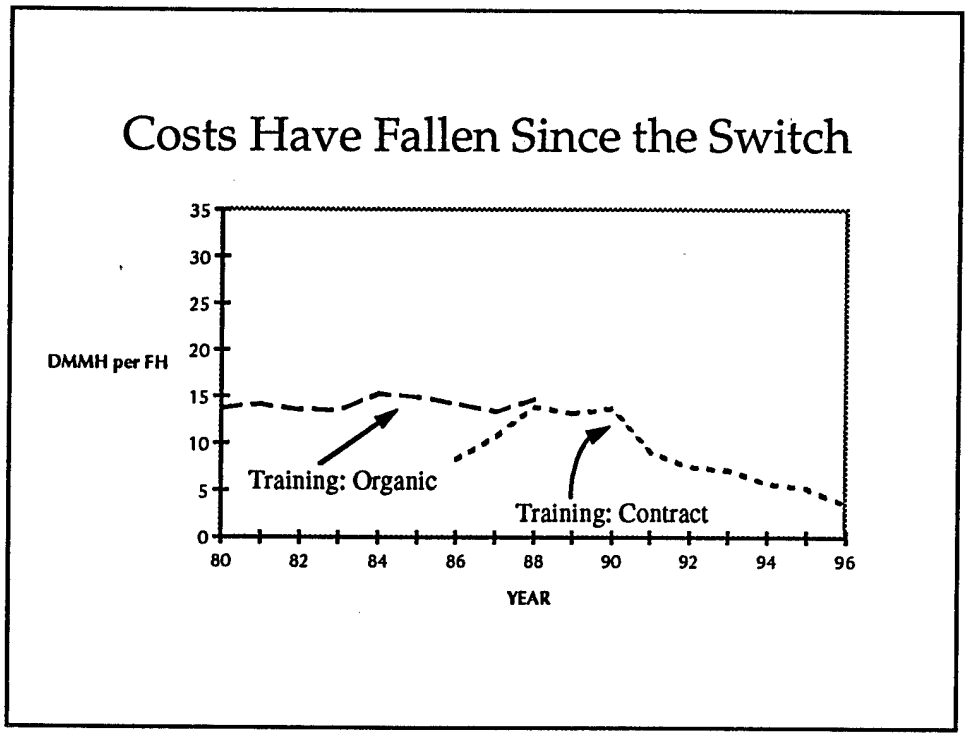
Methodology

- **Hypothesis testing**
  - Z-test: two sample for means
  - H_o: Contract data means equal organic data means
  - H_a: Contract data means are better than organic data means
- **"Reject or accept" H_o**

We want to compare the 3-M data for both types of maintenance (organic and contract) conducted in the training commands. Just looking at the data and making a few simple calculations (mean and standard deviation), we can see that the data sets appear to be different. We want to know if they are close enough to say that they are the same, or if they are different enough to say one is better than the other. To accomplish this goal, we used a standard z-test.

Our null hypothesis is that the means of the 3-M rates for contract maintenance (u_o) are equal to the means of the 3-M rates for organic maintenance (u_o). For FMC and MC rates, because we assume that the contract rates may be better (higher), our alternative hypothesis is that the means of the 3-M rates for contract maintenance are greater than the means of the 3-M rates for organic maintenance.

For the DMMH rate, we still assume contract may be better than organic, but in this case, that means lower, so the alternative hypothesis is stated as the means of the DMMH rate for contract maintenance are less than the means of the DMMH rate for organic maintenance.

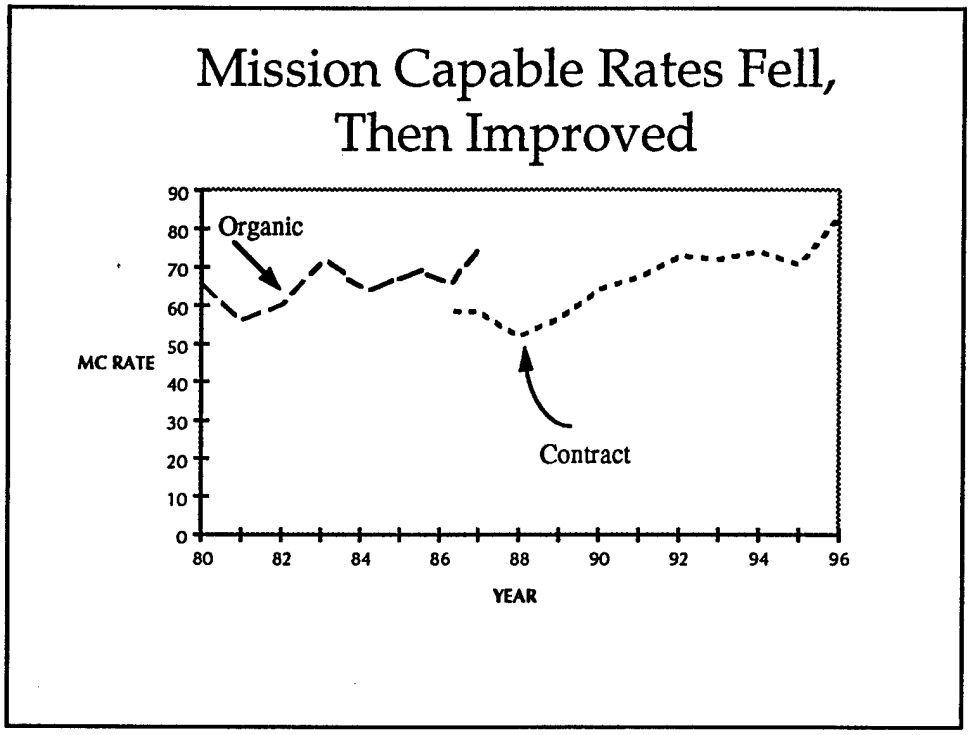


We show here the direct maintenance man-hours per flight hour. The initial DMMH rates for the contractor rose sharply as the contract went into effect. This rise (which we will see in almost all 3-M rates analyzed) may indicate that the contractor had to negotiate a "learning curve" or "break-in period" at the start of the contract. After the break-in period, the change in DMMH rate seems to be significant and an improvement over the organic Navy maintenance.

One way to measure the learning curve or break-in period is to determine how long it took the contractor to reach the mean level for that rate. We will see that the mean DMMH rate under contractor maintenance was 9.60, and that it took the contractor 55 months to reach this level. Even so, the contractor's first efforts were better than the organic DMMH rate. Also, it took the contractor only about 21 months to stop the rising trend in contract DMMH and begin to lower it to more efficient rates.

These data seem to suggest that the contractors could ready the aircraft to fly equivalent hours more efficiently (i.e., with fewer personnel). The question, then, is if the contractor used fewer man-hours than organic maintenance, was readiness affected?

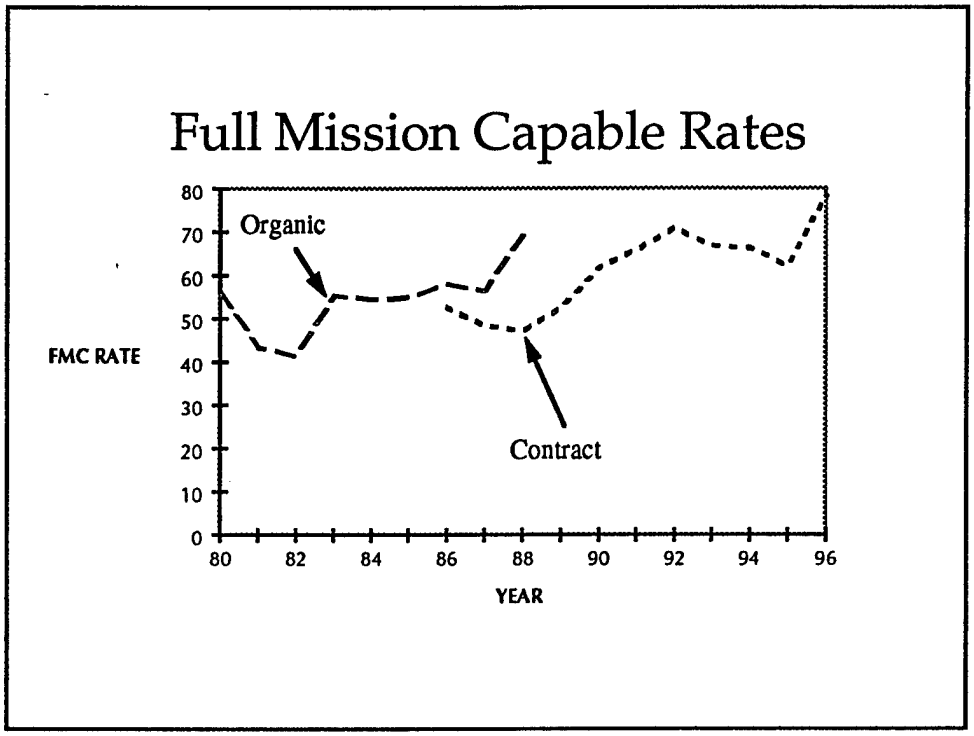
Although all hypothesis testing calculations were based on month-by-month data, the graphs were created from smoothed weighted average annual numbers, which eliminated the jumps one might expect with the large standard deviations listed.



This chart shows the mission capable rates. The generally positive trend toward higher MC rates drops off with the start of contract maintenance. The rate eventually climbs to a level similar to when the Navy was doing the maintenance and then appears to go above those rates. But is it significant?

The break-in period for MC rates was nearly as long as for direct maintenance man-hours. The contractor took 49 months to reach the mean MC rate of 65.2 percent. In this case, the contractor also had some ground to make up to reach the level of the organic maintenance MC rate. However, the contractor began to show improvement toward higher rates after about 29 months.

Note that this rate is the only 3-M data set that is specified in the actual maintenance contract. Contractor performance which does not meet an MC rate of 65 percent for the TA-4J for 3 consecutive months is reason to end the contract. (The two other rates the contractor is obligated to meet—aircraft ready for issue at 55 percent and sortie-completion rate at 92 percent—are not included in 3-M statistics.)



The graph seems to show a general overall improvement both for the Navy maintenance and the contract maintenance, with the contract maintenance eventually surpassing that of the organic Navy maintenance, after recovering from the initial downturn.

It took the contractor 41 months to reach the mean value of 59.8 percent for FMC. About 29 months elapsed before the contractor began to show an improvement in the FMC rate.

Are Organic and Contract Means Equal?

	DMMH	MC	FMC
Δ mean	-4.74	-0.26	7.89
Z critical	-1.65	1.65	1.65
z	-11.6	-.024	6.40
Conclusion	Reject	Accept	Reject

DMMH, FMC: Contract means are "better" than organic means

MC: Contract mean and organic mean are equal

This slide shows the basic information for a formal hypothesis test of organic Navy rates versus contract maintenance rates in the training commands.

The test rejects the hypothesis that the DMMH means are equal in favor of the alternative, which is that the contract DMMH mean is less than the organic mean. The test accepts the hypothesis that the MC means are equal for both organic and contract cases. It rejects the hypothesis that the FMC means are equal in favor of the alternative, which is that the contract FMC mean is greater than the organic mean.

Another way to look at *z* is to note that it measures the number of standard deviations between the actual difference in means and the hypothesized difference. For example, for DMMH, there are -11.6 standard deviations between (14.34 - 9.60 = 4.74) and zero. Because the test only allowed 1.65 standard deviations to accept the null hypothesis, we must reject the null.

Note that the means represent the average rate over the period of time either contract or organic maintenance was conducted and that we have the data. For the organic case, this is 88 months, and for the contract case, it is 115 months. Monthly data are available from April 1980 to January 1996.

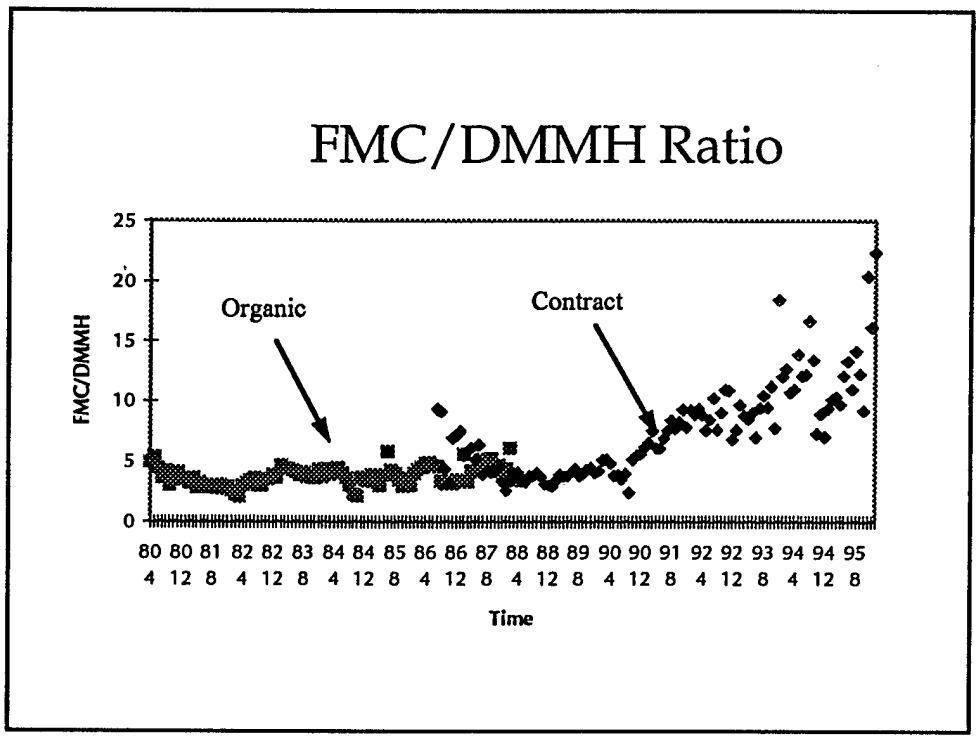
Break-In Period

- **Two years for contractor to start showing improvement**
- **Four years for contractor to reach mean**
  - Note no break-in period when contractors switch
- **Hypothesis testing results change if break-in period is dropped**
  - FMC, DMMH: No change
  - MC: Reject H_o, accept H_a

As noted in previous slides, there was a definite break-in period or "learning curve" when the contractor took over. All 3M rates studied showed either an initial worsening from the level provided by the organic Navy maintenance and/or the rate started driving in the "wrong" direction before improving.

It took almost 4 years to reach the rate means, but the first contractor was able to improve performance well before then. On average, it took 23 months for the first contractor to reach a peak (or valley) and then to show improvment. Note, however, there was no break-in period when one contractor took over from another. Anecdotal evidence suggests that this is because the same workers remain when contractors switch, but few government employees joined the initial contractor.

As a final step, we reran the hypothesis testing after eliminating the break-in period for the first contractor. The results did not change for either DMMH or FMC, namely the tests called to reject the hypothesis that the rates were the same in favor of the alternative that the contract rates were better. The result for MC did change, however. Eliminating the break-in period allowed the null hypothesis to fall in the rejection region and support the alternative that the contractor MC rates were better than the organic MC rates.

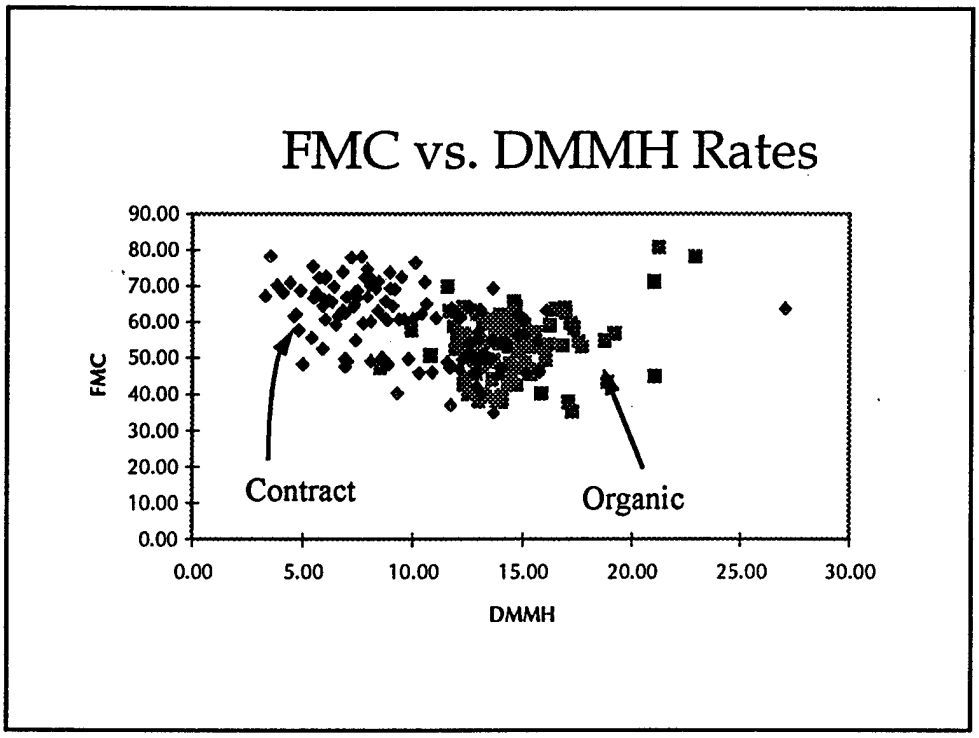


This graph shows the ratio between FMC and DMMH rates. In other words, how much maintenance was needed for each percentage point of full mission capable status? If FMC can be considered an output and DMMH an input, the ratio is similar to what economists call labor productivity.

During the organic period from early 1980 to mid 1988 the ratio was fairly steady at around 4 or 5 to one. When maintenance was first contracted out, the ratio increased briefly to about 10, then fell to the organic level. After a period of "learning," the ratio started to rise, eventually reaching 15 by 1995.

Contract maintenance seems to be more efficient. In the end, the contractor was getting at least twice the FMC rate for every man-hour of maintenance completed, whether this was due to "better" technician, better management, capital improvements, or some other difference.

The contractors may have experienced a break-in period or learning curve when first implementing the contract. For whatever reason (capital improvements, more training, hiring more workers, etc.), they soon reversed the downward trend and began improving. Note that a break-in period occurred at the start of the first contract but not between contracts. This may be because most of the workers remained in place when the contract changed hands.



This chart tells the same story, only in absolute numbers. Again we can see that when contractors took over the maintenance of the TA-4Js of the training command, a higher FMC rate eventually emerged, and the maintenance man-hour rate declined. At this point, we cannot state a definitive reason for this. It may be that because the workers stay in place and do not rotate as Navy technicians do, they are gaining more experience and efficiency. Or it may be that the contractors made great improvements in the capital of the facilities. For whatever reason, the contractor seems to be more efficient, and is putting out a "more ready" product at a lower man-hour cost.

There is one obvious outlier in the contract data that corresponds to September 1990 and is characterized by a very high DMMH rate. The FMC rate for that month is unremarkable; however, both the sortie rate (the number of flights) and the utilization rate (the number of flight hours) for that month are unusually low. September does mark the end of the fiscal year, and anecdotal evidence suggests that the training command may simply have run out of money to fly that month. Yet no other September in the data set jumps out like September 1990.

Conclusions

- **There appeared to be a significant "break-in" period at contract start**
- **After the break-in period, the contractor met or exceeded the quality level of organic Navy maintenance**
- **Contract maintenance was more efficient (lower DMMH) leading to major resource savings over time**

When the transition to contract maintenance from organic Navy maintenance began, most 3M data rates got worse. It was almost 4 years before the contractor reached the mean level and 2 years before there was any real improvement. The bottom line is that for 2 to 4 years, the training commands suffered a reduced mission capable rate. The Navy should go back to identify reasons for these adjustment periods and seek to establish procedures to reduce their length.

Nevertheless, outsourcing the maintenance function in the training commands has not hurt the quality of maintenance provided in the long run, nor has it affected readiness. We cannot say now that the contractor is "better" than the in-house maintenance. This does say, though, that once the break-in period is over, the level of quality provided by the contractor is at least equal to the previous in-house quality.

Finally, the contractor used far fewer resources to complete the job. The contractor provided an equivalent amount of flight hours with a 33-percent reduction in direct maintenance man-hours, an obvious resource and cost savings. Some of these gains could have been used to increase MC/FMC. As noted earlier, outsourcing introduces a gain in efficiency. The split of this gain between performance gains and cost reductions depends on how the contract is written.

Marine Corps BOS Experiences at Parris Island

The next case studied is Parris Island. Parris Island has been a Marine Corps Recruit Training Depot (MCRD) since 1917, and is one of two Marine Corps boot camps. Male recruits from east of the Mississippi and all female recruits are introduced to the Corps at Parris Island. Male recruits from west of the Mississippi are trained at the MCRD in San Diego. Also at MCRD-Parris Island are a number of specialized schools such as NCO Leadership, Field Music, and Personnel Administration, as well as a school for enlisted recruiters.

The four training battalions are housed and fed separately from each other. There is also a separate weapons training area to which each battalion is deployed for two weeks in the training cycle.

Parris Island consists of marsh and several islands extending over about 7,000 acres, 3,200 of which are habitable. There are 232 family housing units on the station. Another 352 families are housed among the 1,200 units at the Laurel Bay housing area, 3 miles from the Marine Corps Air Station (MCAS). MCAS Beaufort is 8 miles north of Parris Island. A 65-bed Naval Hospital is nearby as well. Charleston, South Carolina, is 77 miles to the north and Savannah, Georgia, is 46 miles to the south. The recreation areas of Hunting Island State Park and Hilton Head Island are about 20 to 35 miles to the east. Beaufort County, which includes the towns of Beaufort and Hilton Head, is a coastal (low country) region supporting a population of about 100,000 people. The local government estimates that the population has grown by about 75 percent since 1980, due largely to the growth in recreational services at Hilton Head.

With a total civilian workforce of about 1,500, the MCRD and the MCAS together are the largest employers in Beaufort County. The next largest employer (240 employees) is a linen laundry at Hilton Head.

Parris Island Overview

- **Multifunction BOS contract**
  - Viewed as unsuccessful
- **Two different contractors between 1988 and 1992**
  - First contractor went bankrupt
  - Second contractor defaulted
- **Functions are now performed in-house**

Between 1988 and 1992, two sequential multifunction Base Operating Support (or BOS) contracts were in effect at Parris Island. The A-76 competition leading to contract award lasted 5 years. The experience is widely viewed as a failure in outsourcing. We went to Parris Island to help identify what could have made the experience a success. We also interviewed staff at the air station, who undertook a 7-year A-76 multifunction BOS competition won by the in-house employees.

At the Recruit Depot the in-house bid, or Most Efficient Organization (MEO), was $27 million, while the winning contractor bid about $19 million. Only three small businesses bid on the first contract, and no local company bid. After a two-step sealed-bid process, a contract was awarded to a service company headquartered in North Carolina. The contract was firm fixed-price with an indefinite quantity/ delivery (or IDQ) portion.

The next few years were a learning period for both sides, but, in the end, the contractor went bankrupt. In June 1991, a second two-step sealed-bid procurement led to a better contract with another firm headquartered in McLean, Virginia. Initially, eight bidders bid on this contract. Ten months later, the second contractor defaulted, and the functions were brought back in-house. Most (roughly 130 out of about 200) of the contractor's employees chose to stay and eventually became civil servants. Twelve employees actually stayed through the entire process, transitioning from the government, to the first contractor, to the second contractor, and then back into the government. Parris Island continues to rely on outsourcing for some other functions, and we'll give more details on these functions later.

Many Functions Were in the BOS Contracts

Function	1988 Civilian	1988 Military	1995 Civilian	1995 Military
• Pest Control	3	0	2	0
• Refuse Disposal	3	0	1	0
• Motor Veh. Ops, less bus	25	18	22	1
• Motor Veh. Repair	7	1	4	0
• Electric Plant Ops.	6	0	8	0
• Heating Plant Ops	18	0	6	0
• Water Plant Ops	1	0	0	0
• Sewage Plant Ops	5	0	5	0
• HVAC Plant Ops (+ 5 Ton)	2	0	1	0
• Family Housing, Maint.	8	0	3	0
• Base Buildings, Maint.	68	0	68	10
• Grounds, Surfaced Areas (Only)	0	0	0	0
• *Total*	*146*	*19*	*120*	*11*

The Commercial Activities Inventory database provides this list of functions and the number of in-house civilians and military providing each function. We extracted the data for 1988 (before outsourcing) and 1995 (after returning in-house) for only those functions that were part of the multifunction BOS contract. In addition to those personnel performing commercial activities at Parris Island, about 1,300 civilians and military perform other commercial activities, and about 400 civilians perform inherently governmental functions.

Food preparation and food service functions are both dominated by military labor, because the food service function has been part of the training syllabus for the recruits. The Marine Corps may eliminate this part of the training curriculum, and if it does, this function could be competed.

Unfortunately, the inventory does not list whether contractors are performing any of these functions. We were told that refuse collection is outsourced today, as are some painting and cleaning functions. Food supplies are provided by a direct-vendor delivery system, in which the food service manager submits a daily or weekly menu to the contractor, who delivers required supplies "just in time." Parris Island managers are quite happy with this system and will be part of a new direct-vendor delivery project instituted by the Defense Logistics Agency (DLA) for building supplies.

The various buildings used to house and feed the recruits require large independent industrial air conditioners. Newer facilities do not rely on the older system but use heat pumps instead. Also, there are an on-base sewage treatment plant and many industrial wells for hot fresh water. Power requirements not met by the on-base power plant are supplemented by the local power company.

The First Contracting Experience Was Negative

- **NAVFAC provided contract management; Parris Island functional management provided technical expertise**
- **Contract specifications**
  - Firm fixed price/IDQ
    - Extensive conflicts and delays
    - Poor performance work statement
    - Problems particularly acute in power and sewage
      - Faulty operation and damage to industrial plant
- **First contractor went bankrupt for reasons unrelated to Parris Island**

The A-76 process leading to contract award took 5 years, and an additional year passed before the contract start-date. Parris Island Facility Maintenance personnel assembled the performance work statement and provided technical data, but the public works officer managed the contract. The first performance work statement was very rough, and some information was missing or incomplete.

The first contract was a small business set aside. It ran for 1 base year plus 4 option years. After the first year, it became apparent that the first indefinite quantity (IDQ) component was too small to respond to surge requirements. Specifically, the contract had capped the IDQ jobload at average levels, and so many "above average" requirements had to be negotiated as a change order with the contractor. (The command also implemented an additional IDQ, or job-order, contract with another firm to handle surge work. Parris Island uses these IDQ-type contracts successfully today). Also, the contractor's performance was monitored by the quality assurance (QA) evaluators, and any substandard work had to be redone. As a result, there were many conflicts and performance arbitration proceedings between the contractor and the QA inspectors. Many disputes centered around the contractor's use of government-furnished equipment and supplies. The two greatest concerns centered on the steam-generating power plant and the sewage treatment plant, which the government argued were neither maintained nor operated properly by the contractor. The contractor demanded many improvements and upgrades (particularly to the aging steam plant) but (according to the government managers) failed to operate or maintain those facilities correctly.

The first contractor performed from 1988 to 1991. The contractor filed for bankruptcy (for reasons unrelated to Parris Island), and a new contractor was found.

The Second Contracting Experience Was Better

- **Also a two-step, sealed-bid process**
  - Greater number of bidders
  - Better performance work statement
  - Greater penalties for nonperformance
- **Some performance problems persisted**
- **Second contractor defaulted after 10 months**

The second competition was also a two-step, sealed-bid process, but because eight firms bid (as opposed to three on the first contract), the government had greater leeway in screening unqualified bidders. The performance work statement was more complete, and the new contract featured more penalties for nonperformance. This contract was for $44 million (over 5 years), which was substantially more than the initial MEO (although adjusting the MEO to 1991 dollars puts it at about $31 million rather than $27 million).

The stronger contract eliminated the need for a separate IDQ contract, and reduced the need for change orders. Nevertheless, Parris Island maintenance managers remained displeased with contractor performance and operating procedures during the 10 months the contract lasted. Again, concern centered on contractor operation and maintenance of the government power plant and sewage treatment plant, but there were other problems as well. For example, spare parts had been provided to the contractor but never reordered or replaced. Maintenance managers were always concerned about setting precedents that would return to haunt them later, so they spent a great deal of time disputing even the smallest problems. In 1992, the government declared the contractor in default, and chose to bring the functions back in-house rather than find another contractor. Overall, the contractors and the government had a very adversarial relationship. The relationship between Parris Island maintenance managers and NAVFAC contract managers was not always positive either.

Local Labor Distortions Could Have Hurt Performance

- **Department of Labor—Beaufort County**
  - General maintenance workers ---- $7.84 to $8.69
  - Maintenance mechanics ----------$9.98
- **Govt. salary averages for rehired workers**
  - All 230 rehires = $12.69 (includes GS- clerks)
  - 215 blue collar = $12.79 (includes supervisors)
  - 195 wage grade = $12.37 (wrench turners)
- **DOL wages about 1/3 less than the government scale**
- **Negotiated competitions could have avoided the problem**

Some say that low contractor wage rates hurt performance. This slide shows the wage differential at the time the contract was brought back in-house. Generally, all contractors are required by the Davis-Bacon Act and the Service Contracting Act to pay wages set by the Department of Labor (DOL), and fringe benefits are also regulated. There can, however, be distortions between the DOL compensation and the local prevailing market compensation. For example, the building boom on Hilton Head raised the prevailing wage rate above the DOL wages, so that local private wages are close to the government scale. Firms could have bid based on the lower wage rate, but may not have been able to find qualified employees at those low rates. This could have been a factor in the contractor's poor performance at Parris Island.

In a sealed-bid competition, the lowest (qualified) bidder will always win the contract, and indeed this is what happened on both BOS contracts. In a negotiated competition, price is only one factor among many, and each factor can be weighted differently. Thus, one way to correct the wage rate distortion would be to weight price relatively lower than performance or quality measures.

Number of Competitions for Capital Intensive Functions

Function	Army	Air Force	Marine	Navy
• Electric Power Plant Ops.	1	1	1[a]	2
• Heating Plant Ops.	1		1	
• Water Plant Ops.			1	
• Sewage Plant Ops.			1	1
• HVAC Plant Ops (+5 ton)			1	2

Source: DoD Commercial Activities Competition Database: 1978–1995
a. All these were Parris Island

Some of the functions outsourced at Parris Island were to operate government utilities. This slide shows the number of times the four services have competed, and then contracted for, utility production services on bases under OMB Circular A-76. The Marine Corps' only attempt at contracting for utilities was in the failed contract at Parris Island. Incidentally, these functions were included in the A-76 cost comparison studies performed at the nearby MCAS Beaufort. Because the Most Efficient Organization developed by MCAS Beaufort reduced the government labor force by 20 percent, making them much more competitive than industry, the Beaufort competition was won by the in-house team.

The two Navy attempts (both successful) are at the Naval Security Group in Chesapeake, Virginia, and the Trident Base at Bangor, Washington. Contractors operate the sewage plant at NTC Orlando, and the large industrial air-conditioning plants at NTC Orlando and NAS Kingsville. Other governments, such as the City of Indianapolis, contract out sewage treatment facilities successfully, and we plan to look at successful operations for further lessons learned.

Number of Competitions for Labor Intensive Functions

Function	Army	AF	MC	Navy
• Laundry/Dry Cleaning	23	4	3	7
• Refuse Collection/Disposal	4		1 + 1[a]	4
• Base Food Service	11	9		12
• Grounds and Surface Maint.	2	39	1 + 1	13
• Base Supply Ops		1		3
• Family Housing Maint.		89	3 + 1	7
• Other Building Maint.			1 + 1	14

Source: DoD Commercial Activities Competition Database: 1978-1995
a. The "+1" indicates Parris Island

This slide shows that the military services under A-76 have much more experience in competing and contracting for the more labor-intensive functions. Parris Island had the distinction of being the first Marine Corps base to hire contractors to operate government-owned water, sewage, and power plant operations.

Morale Suffered But Most Found Jobs

- **Long process affected morale**
  - 5 years to run A-76 study
  - Additional year before contractor started
  - Work slowdowns and sabotage
- **263 government workers displaced by first contract**
  - 12% retired; 31% reassigned, 57% separated
  - 17% received severance (1/3 of those separated)
  - 19% hired by contractor (1/3 of those separated)
  - 217 had jobs at contract start-date

Morale suffered during the 5 years it took to conduct the A-76 study, but the one-year period between contract award and contract start was particularly difficult. The most qualified workers left quickly, and those who remained were not as productive. Tremendous backlogs of work piled up (for example, air conditioning repairs virtually ceased). As a result, the contractor walked into a much worse situation than had been expected. There was some evidence of worker sabotage (although worker sabotage also had taken place when the second contractor took over from the first).

The first contract displaced 263 of about 700 government employees. Of the 149 people separated (not transferred to other government positions or retired), 45 received severance pay and 49 went to work for the contractor. On the contract start-date, Parris Island personnel stated that 217 of the 263 people displaced had jobs (on-base or elsewhere).

Maintenance managers noted that the type of management skills is different when work is contracted out. They admitted that it was hard to work with the contractor, but when the function is in-house, there were difficult personnel issues.

Bringing the Work Back In-House Was Not Easy

- **Established a 230 civilian work force**
  - Close to original MEO
- **Continued operations by temporarily hiring contractor personnel**
- **Redeveloped Civil Servant Work force**
  - Worked with Priority Placement program
  - Requested waivers and exemptions from hiring restrictions to keep key people formerly employed by the contractor
- **Continued using IDQ vehicles for surge and special repair**
  - Painting, Roof Repair, Sludge Removal, HVAC, and Refuse

On the day the contractor defaulted, workers were offered the chance to stay on and transition to the in-house workforce. Of more than 200 employees believed to work for the contractor, roughly 160 stayed on as temporary government employees. Eventually, 130 became full-time government workers.

It took 2 to 3 years before the workers became full-time civil servants again. Workers were hired initially as 30-day temporaries, then as 1-year temporary employees, and finally transitioned to civil servant positions. The Base Realignment and Closure decisions and the Priority Placement program (along with other RIF rules) limited managers' flexibility in hiring new people, and waivers were required to keep the best of the contractor's employees.

Summary

- **Multifunction BOS contract was not successfully implemented at MCRD—Parris Island**
  - Transition problems were never resolved
  - Negotiated competition (not used often in the 1980s) would have protected quality
  - Award fee would have been a useful tool
- **The Parris Island experience does not mean outsourcing should be avoided**

The Parris Island experience does demonstrate that there is a learning curve (for both sides) on outsourcing. The first contract could have benefited from a more complete performance work statement. Both contracts would have benefited from integrating the technical experts with the contract specialists early in the process and from using negotiated competitive (rather than sealed-bid) processes. Although the maintenance managers we spoke to did not feel an award fee would have helped, an award fee would have imposed a mechanism for post-award responsiveness. Both sides would have to come to the table and decide how much to award. This mechanism reinforces good performance in a way that dunning a contractor for each incident of poor performance does not.

Today, there is successful contracting at Parris Island and nearby facilities. Both MCRD Parris Island and MCAS Beaufort use competitively developed Job Order and Multi-Trade contract vehicles for surge and technical support. Both also use the direct-vendor delivery system for food supplies and will be using a similar system for building supplies. Note that in both these systems, the contractor provides its own equipment and facilities. Also, the nearby Naval Hospital in Port Royal contracts for nurses, nutritional care, structural maintenance, and grounds keeping.

Summary

- **Multifunction BOS contract was not successfully implemented at MCRD—Parris Island**
  - Transition problems were never resolved
  - Negotiated competition (not used often in the 1980s) would have protected quality
  - Award fee would have been a useful tool
- **The Parris Island experience does not mean outsourcing should be avoided**

This experience also demonstrates how important bundling functions into separable packages can be. The biggest problems involved using contractors to operate the power generating plant and the sewage treatment plant. There were many disputes about whether the government had provided adequate information (drawings, for example) to enable the contractor to perform, and the contractor demanded many improvements in the obsolete systems. Deciding who is responsible for what can be particularly hard when the contractor provides labor and the government provides equipment, materials, or facilities. But other installations (and other parts of the government) have used contractors to operate public facilities successfully, so this can only be a piece of the story.

Tips for Implementation

- **Move quickly to minimize morale problems**
- **Bundle like functions together**
  - Key is to look for packages found in industry
- **Performance-based contracts should use industry standards and practices**

Here are some things that could have made for a more positive experience. First, the long competition process was very hard on employee morale. Many people began to look for new opportunities, people who stayed were less productive, and no new permanent hiring could take place over the 6-year period. This also affected the contractor's ability to perform, because the firm inherited unexpectedly large backlogs of repairs. It may also have interfered with the day-to-day working relationship between the quality assurance inspectors, government managers, and contractors. After all, many of the quality assurance inspectors had seen their colleagues displaced. An adversarial, or even an "arm's-length" relationship, can undermine success.

It's important that a multifunction contract bundle functions in a way that attracts the greatest number of bidders. One way is to group functions into packages commonly found in industry. It also helps to have contractors provide their own supplies, equipment, and facilities wherever possible. When contracting for something where accountability is easily blurred, for example, contractor operation of the in-house power plant, an "arm's-length" relationship can be particularly bad.

Finally, industry standards and practices should play a key role in designing performance work statements and performance-based contracts.

TRADOC/Fort Eustis Case Study

Lessons Learned From Army CA Competitions

We sought to get a broad view of how another service conducted its CA program. To that end, we visited two Army installations: Fort Monroe and Fort Eustis. During these visits, we collected data and interviewed functional managers, contract managers, and Commercial Activities (CA) managers who conduct competitions and oversee the maintenance of the CA inventory data. Fort Monroe houses the Training and Doctrine Command (TRADOC). Fort Eustis is one of 17 TRADOC installations and home of the Transportation Corps.

TRADOC was established in 1973 to unite training and combat developments under a single authority. The command oversees the Army's development of weapon and equipment requirements, tactical organizations, warfighting doctrine, training and leader development, and soldier support. The mission of TRADOC is threefold: to prepare the Army for war, to be the architect of America's Army for the future, and to ensure TRADOC's capability to execute its mission.

Many of the Army's experiences with the CA program at TRADOC and Fort Eustis are similar to those of the Navy. However, there were some differences in the way the competitions and contracts were handled and managed. These are good opportunities for the Navy to learn from the Army's experiences.

Overview

- **TRADOC and Fort Eustis have been active participants in A-76**
- **The CA program is considered a success on balance**
- **Successes and failures are driven by:**
  - Resource support
  - Incentives
  - Commitment at the base level
- **Bases are reluctant to participate again:**
  - No resource support
  - No perceived reward (lack of trust)
  - Different environment today

TRADOC initiated 263 CA competitions, but most (57 percent) were canceled before completion. Thirty-six of those cancellations were due to the moratorium in the FY 1991 Appropriations Act, and the rest were canceled for reasons that included a new law regarding guard services, BRAC actions, activity transfers, or repackaging in another competition. The 114 completed studies represent a relatively large share (5.3 percent) of all completed studies in DoD. Of these completed studies, about 60 percent went to contract.

Fort Eustis initiated 24 A-76 studies, making it an active player even within TRADOC. Of the 13 completed studies, 8 resulted in an in-house win and 5 went to contract.

On balance, the staffs at both TRADOC and Fort Eustis consider the CA program to be a success. TRADOC saw more successes than failures, and people at Fort Eustis believe, in general, that the CA competitions have put them in a better position to deal with budget cuts than they would be in otherwise. However, both TRADOC and Fort Eustis are reluctant to participate in the CA study process again.

People at TRADOC thought participation should be voluntary at the base level and feel unprepared to support a large number of competitions. The staff at Fort Eustis believes that it has done more than its fair share of studies (11.4 percent of all completed studies at TRADOC) and has no rewards to show for its efforts. As a way of cutting budgets, TRADOC levied across-the-board cuts on all contracts. These cuts fell disproportionately on the installations that had outsourced aggressively. This type of perverse incentive is a major obstacle to commitment at the installation level.

Examples of Successful TRADOC A-76 Competitions

- **Director of Logistics Competition at Fort Eustis**
  - Large, multifunction competition
- **Laundry competitions at Fort Eustis**

The Army has done larger competitions, in general, than the Navy. Army installations have tended to compete an entire business unit, like the Director of Logistics or the Director of Public Works, in a single competition. These larger competitions will bundle several public works functions into a single competition. The laundry competitions, on the other hand, are much more typical of Navy competitions. Here a single function at an installation is competed. We looked at successful competitions for both of these types of competitions.

Director of Logistics Competition at Fort Eustis

- **Initiated in 1980—contract decision in 1982**
- **Included most intermediate maintenance functions and some installation services**
- **Considered a success (good value and flexible)**
- **Most workers were placed in other positions**
  - Originally 450 spaces (MEO and bid approx. half)
- **Some cost growth due to**
  - Wage inflation
  - Changes in scope (not well documented at start)

ıt Fort Eustis, the installation services under the Director of Logistics ıcluded laundry, food services, supply, transportation, and ıaintenance. Many of the remaining services were competed under the)irector of Public Works (DPW), which we will discuss next.

'here was some initial cost growth for the contract (which was criticized ›y the GAO at the time). This was mainly the result of increases in)epartment of Labor wage rates and undocumented changes in contract ıission. Now, any such changes are documented more carefully, and the eal costs (and mission) are decreasing. People at Fort Eustis are happy ıith the contractor's performance and think they are getting good value. n fact, they think the contractor has been more flexible and better able o maintain scope and quality of services than an in-house team would ıave been under similar fiscal constraints.

)f the 450 original spaces competed 13 years ago, only 18 people were RIFed. About 30 retired, and about 50 went to work for the contractor. The rest found other jobs, or the positions were eliminated through ıttrition or had been vacant from the start.

Laundry Competition at Fort Eustis

- **Two previous competitions: first separately then as part of Director of Logistics**
  - Contractor operated Army laundry facility
- **Recompeted in 1993 due to dilapidated facilities**
  - Won by VA hospital in Richmond (considered in-house)
  - Avoided reinvestment in facilities
  - VA realized better economies of scale

The laundry competitions are also considered successes. The Director of Logistics contractor had been operating the laundry facilities on base with the government struggling to maintain the antiquated facility and equipment. The facility eventually became so run-down that it had to be replaced. Fort Eustis had neither the desire nor the money to make the needed investment.

The Veteran's Administration hospital in nearby Richmond bid on the contract and won (beating out the private bids). The hospital's new laundry facility was not being used to capacity and was already providing laundry service to another VA hospital near Fort Eustis. This solution was considered a win for everyone.

This is an example of how allowing public teams from other installations and agencies to compete could lead to better use of resources.

Not all TRADOC Experiences Have Been Positive

- **Problems stem from implementation**
  - Overly aggressive quality-assurance plans
  - Lots of disputes between contractor and government managers
- **Failures are not inherent**
  - A-76 is a tool that can be misused
  - Local implementers can derail or delay the process
    - Resources wasted
- **Senior leaders can reverse these problems**
  - Need to monitor progress and intervene when necessary

TRADOC had many other successes that we could have investigated; however, looking at failures provides a balanced view and can give more helpful lessons learned.

The less successful competitions are interesting because they involved the same installation or the same functions as the successful competitions.

One Director of Logistcs competition at an (unnamed) installation, for example, did not work as well as the Fort Eustis Logistics competition, even though the same contractor won both contracts. The staff at this installation were much less satisfied than the Logistics staff at Fort Eustis. The impression at Fort Eustis was that the staff at the other installation had an unrealistic quality assurance (QA) plan, because they required the contractor's performance to be better than in-house performance was before the study. People at Fort Eustis also point out that because of their good working relationship with the contractor, they have significantly reduced the number of inspectors over time.

Other competitions were never even completed. One Director of Logistics competition, for example, lasted for 8 years before it was cancelled in 1991 by the Congressional moratorium. During that time, the functional manager delayed the study by bundling and unbundling the functions every few years. In a separate competition, staff prevented source selection by switching the contract type five times. Clearly, the A-76 process can be used to retard progress if managerial resistance exists.

What Makes for a Success?

- **Support from base CO and function managers**
  - Letting sites keep a fraction of the savings could help
- **Realistic performance expectations**
  - Appropriate QA plan
- **Competing larger functions**
  - Economies of scale
  - Larger, established contractors
  - More bidders

The successes and failures are directly linked to the attitude and support of the functional managers and base commander. Rewarding the people and commands who implement change, say by letting installations keep some of the savings, can overcome resistance.

The people we spoke with felt that a realistic QA plan is important. They also noted that the CA competition cannot be expected to fix problems that came from underfunding.

Fort Eustis noted that larger bundles of functions have several advantages such as attracting larger, more reliable contractors, reduced contract administration, and more bidders. Large studies can be more cumbersome, but many small studies could require just as many resources.

TRADOC now expects to compete most BOS functions at all installations under its command. For the new A-76 competitions, the TRADOC is considering letting firms bid on all or part of the competed package. Thus, the bidders essentially choose their own bundle of functions or installations. If there were large economies of scale, a single bid for the entire bundle would win. The drawback to this method is that evaluating different proposals can be very difficult.

Support and Incentives Help Bring Success

- **Resource support**
  - Some support during early 1980s
  - Almost none now—only oversight
- **Incentives**
  - TRADOC claims shared saving program
  - Not seen at base level with ongoing cuts
  - Cuts seen as neutral or punitive to A-76 participants (e.g., all contracts cut or A-76 savings taken in anticipation of savings)
- **No real change in recent revisions to A-76**

It takes resources to do a study. Parts of the study can be automated today; yet, the resources available for studies or training remain scarce. Many of the personnel who worked on the previous studies are now retired or have been reassigned to other positions.

If the CA study process continues, one solution is to outsource parts of the study or have study teams at the major command level who would rotate to the different bases. The staff at Fort Eustis also mentioned that having an outside team do the study may reduce tension between local managers and workers. The "outsiders" would take more of the "blame" for the study. Major command study teams could also staff the Source Selection Evaluation Boards. This would help alleviate staff shortages and increase objectivity. We question, however, whether source selection boards are really necessary in many cases.

The staff at TRADOC mentioned shared savings programs during the 1980s, but the staff at Fort Eustis remembered no such programs—only cuts, sometimes in anticipation of savings.

As discussed before, budget cuts should reward, not punish, installations that pursue more efficient practices. This may be the biggest obstacle to getting them to perform additional competitions. Fort Eustis also was disappointed at the lack of changes to A-76 in the recent revision.

Remaining Concerns

- **Transitory**
  - Workload backup during transition
  - Contract and funding mechanics
- **Continuing**
  - Wage rate increases could drive work back in-house
  - Costly rules and regulations
    - Small business and 8A
    - Service Contracting Act (SCA)

TRADOC and Fort Eustis did experience transitory problems, even with the successful competitions. For example, the transition causes disruptions and reprogramming funds and contract initiation take time. This can lead to workload backup and interim contracts that were not budgeted for.

Other concerns included the Service Contracting Act. This act requires that the contractors pay wages set by the Department of Labor. These wage rates have continued to increase over time and do not always reflect local wage rates. For example, the Department of Labor included the wages of the employees at a local nuclear ship construction company in determining the wage rates for Fort Eustis. These rates exceed the market rates for work at Fort Eustis. If the trend in Department of Labor wage rates persists, Fort Eustis may decide to bring some work back in-house.

Fort Eustis also felt that small business and minority set-aside contracts were more costly, which tends to bias the competition in favor of the in-house team. Thus, the government may end up doing work in-house because of a law intended to support private businesses.

Tips for Implementation

- **Secure top-level leadership**
  - Reward efficiency/innovations
  - Monitor progress
- **Get installation support with**
  - Incentives—reward efficiency
  - Resource support
  - Even implementation
  - An easier process

A successful competition has the support of the function manager and the base commander. Forcing participation without that support will only waste resources.

Getting commitment at individual installations will be difficult. Local managers are skeptical of promised shared savings and equal implementation. They would like to see other installations participate more fully and to get written promises about future budgets before committing to additional competitions.

TRADOC headquarters staff, on the other hand, felt that budget cuts are a fact of life today. They cannot make hard promises about shared savings or future budgets since they have no promises from above.

However, budget cuts can be allocated in a way that does not punish installations that are aggressive with A-76 or other efficiency initiatives. Moving toward unified installation budgets tied directly to workload would be a step in the right direction for DoD.

Finally, DoD must continue to push for relief from restrictive laws and streamline burdensome processes.

Using Public/Private Ventures: Lessons From the Case of the Susse Chalet BQ in New London

Finally, we looked at a very different type of outsourcing known as a public/private venture. Public/private ventures are partnerships between the government and private industry. In 1990, the Navy awarded a lease contract to Chalet Susse International (henceforth called Susse) for construction and operation of a 150-room transient Bachelor Quarters (BQ) on Navy land at the Submarine Base in New London, Connecticut. The lease runs for a term of 32 years, starting from the award acceptance date of 15 November 1992. It will expire in 2024. A similar Susse Chalet was built in Newport, Rhode Island, at the same time. Overall, five different Navy BQs use some sort of public/private venture.

The agreement guarantees Susse a fixed occupancy rate and a fixed nightly room rate for the length of the contract. Declining numbers of Navy users coming through New London, however, have made those guarantees harder to meet. The Navy is starting to view this agreement as a very expensive experience in outsourcing. We therefore looked at this case to see what lessons can be learned from these types of contracts.

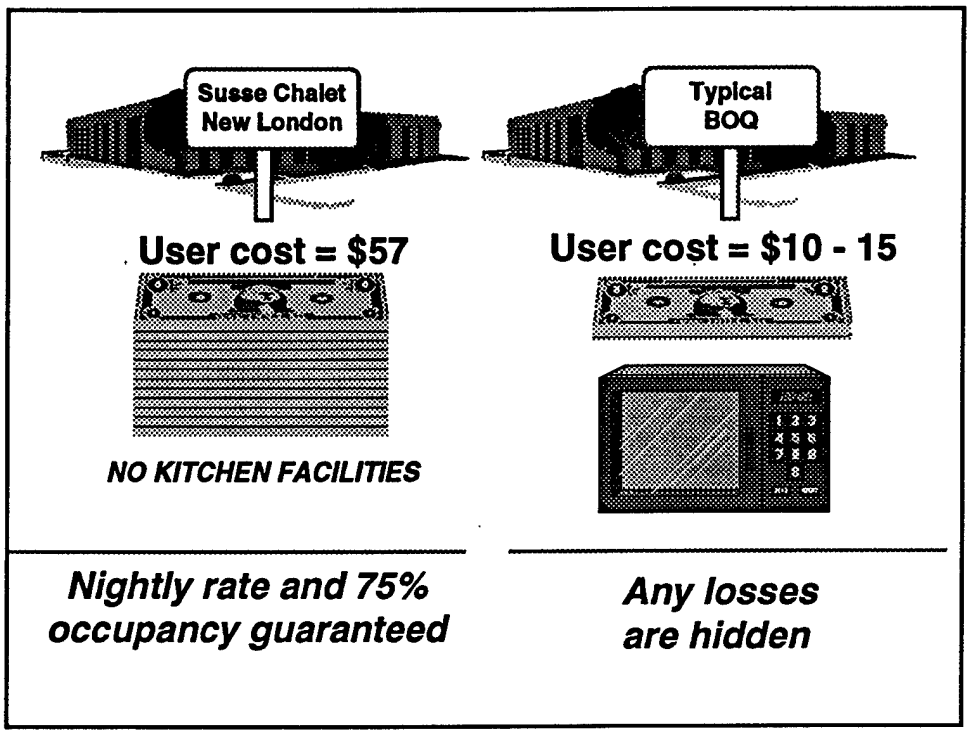
Was a New BQ Economically Feasible?

- **Many felt that inadequate berthing limited student enrollment**
  - Motivated the decision to build another BOQ
- **Congress encouraged public/private ventures**
  - MILCON scarce
- **Only three bidders responded**
- **30+ year contract with Susse**
  - Financial guarantees to Susse meant the Navy assumed all risk that demand would be too low

In the late 1980s, many at the New London submarine base felt that a lack of berthing was limiting attendance at their schools, so they wanted to build an additional BOQ. This perception was not necessarily accurate at the time. Class size could have been small for many other reasons, so building a new BOQ was not necessarily the right solution.

Congress was encouraging the Navy to experiment with public-private ventures. Military construction funding (MILCON) was hard to come by, and public/private ventures represented a way to tap into private capital markets. Funding the project with MILCON would have provided an up-front injection of money to pay building costs, which is the way in-house BQs are funded. Instead, the annual PPV payments to Susse amortize construction costs and operating expenses over the 32-year contract.

Bids for a private partner were solicited with a national ad campaign. Many companies, including Marriot, inquired, but only three submitted bids. Because relatively few firms actually bid on the project, the Navy felt obliged to use a long-term contract. The contract awarded to Susse guarantees a nightly rate per room (which is adjusted yearly for inflation) and guarantees 75-percent minimum occupancy. In making these guarantees, the Navy assumed all risk that demand would be too low to economically sustain the Susse BQ.



Now the Susse Chalet contract is perceived to be much too expensive. The Navy has met the occupancy requirement by placing people at the Susse rather than at the other in-house BOQ. However, because the in-house BOQ (right next door) charges a much lower rate and has a central kitchen available, Navy customers are unhappy.

Thus, the "outsourced" BOQ costs the user much more than an in-house BOQ. Outsourcing has made the real costs visible, while the in-house rate is articially low—not reflecting full costs.

But there is another problem—with product characteristics. BQs serve overnight one-time guests, students taking training courses (which last 10 to 13 weeks), and families awaiting permanent residences. About 60 percent of all Susse occupants stay there for longer than 10 weeks. A survey taken after the Susse was built indicated that longer-term customers would have preferred access to kitchen facilities. The Susse BQ lacks any kitchen facilities, and that fact, in addition to the in-house BQ/Susse BQ price difference, aggravates the situation. Enlisted personnel taking a 13-week course are sent to the Susse for $57 per night (which is not fully covered by their per diem), and cannot use the in-house residence with kitchen that would charge $10 or $15 per night.

Different Options Reflect Different Perceptions of the Problem

PRICE

- **Buy-out or terminate contract**
  - Solves the wrong problem
  - Has practical problems as well
- **Lease a block of rooms to rent out**
- **Restructure BOQ rates Navywide**
- **Do nothing**
- **Pay Susse to redesign rooms**

CHARACTERISTICS

Now there is a lot of thought about what to do. The different options considered reflect different perceptions of the problem.

Some propose bringing the BQ in-house by terminating or buying out the contract. This would eliminate the cost differential to the user—each would pay the prevailing in-house BQ rate. This is not in the best interests of the Navy, however, because it simply hides costs that are seen today. It also does not address the issue that the new facility is not designed for long-term transients.

Buyouts and buydowns have been suggested as a way to bring the BQ back in-house entirely, but the savings depend on the Navy's being able to run a hotel cheaper than Susse. There is no evidence that the Navy is cheaper than an established hotel chain. Also, the original arrangement avoided scoring (which meant that the present value of the government's 32-year commitment did not appear in a single year's budget.) A renegotiation probably would be scored, requiring a big investment up-front.

There are practical problems as well. There is no termination for convenience clause in the contract. The Navy could argue that such a clause is implicit, but defending that argument legally could be expensive and unsuccessful. Also, the Navy typically has been reluctant to terminate in this way lest it be perceived as a bad customer.

Different Options Reflect Different Perceptions of the Problem

PRICE

- Buy-out or terminate contract
  - Solves the wrong problem
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- ⇨ Lease a block of rooms to rent out
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- ⇨ Pay Susse to redesign rooms

CHARACTERISTICS

The base could lease rooms as a block and then rent to users at a subsidized rate to match in-house BQ rates. This would make the users happier, yet it would maintain overall cost visibility. However, there are budgetary considerations. New London would need to find money to pay the difference between the guaranteed Susse rate and the rate charged to users. Of course, this is a problem faced by all in-house BQs. User fees are not designed to cover BQ operating costs.

Restructuring all in-house BQ rates would provide true cost visibility and allow for more efficient resource allocation, thus it would serve the Navy well. But it would make all BQs look more expensive, and would not be popular with users.

Doing nothing is always an option. An ancillary option is to close the in-house BQ next door to save those costs.

Some people argue that the true problem is a lack of kitchens. The Navy could pay Susse to redesign the rooms and add some sort of kitchen facility, and this could raise customer satisfaction. But this could be expensive, and the user would still perceive the in-house/Susse cost differential.

Lessons Learned From the New London PPV

- **The private sector seemed to have doubts**
  - Long-term contracts may be required to overcome industry doubts
  - But there are sometimes good reasons for these doubts
- **Artificial pricing of in-house BOQ rooms will make outsourcing look expensive**
  - The true cost of in-house BQ rooms is invisible
  - Distorts efficient resource allocation
  - Users want the subsidized option
- **Once a contract is signed, it is hard to do much about it**
  - User survey before construction could have avoided the "kitchen problem"

Let's review the lessons we've discussed so far. Some of these lessons are unique to public/private ventures, but others are not.

The lack of bidders suggests that private industry did not view this as a promising opportunity, and that lack of bidders limited the Navy's bargaining power. Building the hotel near the edge of the base, so it could serve a wider market, or even building it off-base and providing a shuttle, could have increased the range of bidders. An additional benefit from more bidders is a wider range of proposals and greater leverage in customizing the product. Thus, the "kitchen problem" might have been solved up-front.

Another lesson concerns the artificial pricing of BQ rooms. A major benefit of outsourcing or privatization is that the Navy sees the true costs of performing a function. However, if that same function is provided in-house at a subsidized rate (or if the true costs are invisible), outsourcing will be perceived as more expensive and could be viewed as a failure. Moreover, if people have choices about which to use, they will use the subsidized facilities (all else being equal). Thus, in-house facilities (if subsidized) will be overused while outsourced facilities (if the user pays the true cost) will have excess capacity. But cost visibility promotes efficient use of resources in-house as well as outside. The problem here is not outsourcing, but the hidden in-house costs.

Other Lessons Learned

- **Fixed-price, long term can be risky**
  - But so is building a BOQ
- **The Navy could have improved its competitive position**
  - Put near the edge of the base or allow off-base bidders and provide a shuttle
  - Consider a wider range of bidders (e.g., local landlords, in-house)
  - No contract needs to be an option

Here are some further lessons.

Long-term contracts can be costly if underlying circumstances change. The Navy chose to assume all demand-related risk by guaranteeing room and occupancy rates, and the Navy probably needed to assume that risk. After all, because the BQ could be used by Navy personnel only, all declines in demand were the Navy's responsibility. The same risk was there for an in-house BQ—but mistakes are less visible. Incidentally, the other Susse Chalet BQ in Newport, Rhode Island, is successful.

Better market research could have highlighted potential problems early. In particular, incorporating the ideas of potential bidders or industry sources, as well as potential BQ users, into the Request for Proposal could have attracted more bidders. It may also have indicated that apartments were a better option than a hotel. Also, moving the site to make the facility less Navy-unique (meaning placing it where other DoD personnel or civilians on official business would want to use it) could have gotten the Navy more flexible terms, such as tying rates to local conditions or a termination-for-convenience clause. Finally, a lack of bidders can signal that the package is not economically viable and that the BQ was not needed. That signal should not be ignored.

Implementation Tips

- **Build flexibility into the contract**
  - Termination for convenience clause
  - Limited duration
- **Bundle to attract bidders**
- **Be sure of what you want to buy**
  - Survey prospective suppliers (defined broadly) and customers
- **Outsourcing can look expensive even when it's not**
  - Expect trouble when competing against subsidized products

Here are some suggestions for working successfully with the private sector. The nature of the product required an extended contract period. If the Navy is asking for a Navy-unique product, a long-term contract may be the only way to attract bidders, and the Navy will have difficulty in shifting risk to the contractors. Thus, the Navy should think about how to make the product less Navy unique, as noted earlier.

It is also important to define the project in a way that will attract bidders. There are many ways to do this other than long-term contracts.

It is important to have a clear idea of the product to be purchased. This idea should be drawn from customer preferences. To attract bidders and retain flexibility, the product should be defined as broadly as possible consistent with meeting these preferences.

Finally, outsourcing and PPVs may look more expensive when in fact they are not. If some prices in a system represent full costs and other prices only cover partial costs, users will choose the lower price (or be unhappy about being forced to pay the higher price). However, because true prices promote the efficient use of resources, the Navy should restructure all BQ rates rather than hiding costs in-house.

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