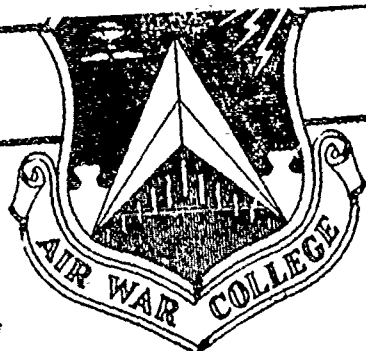


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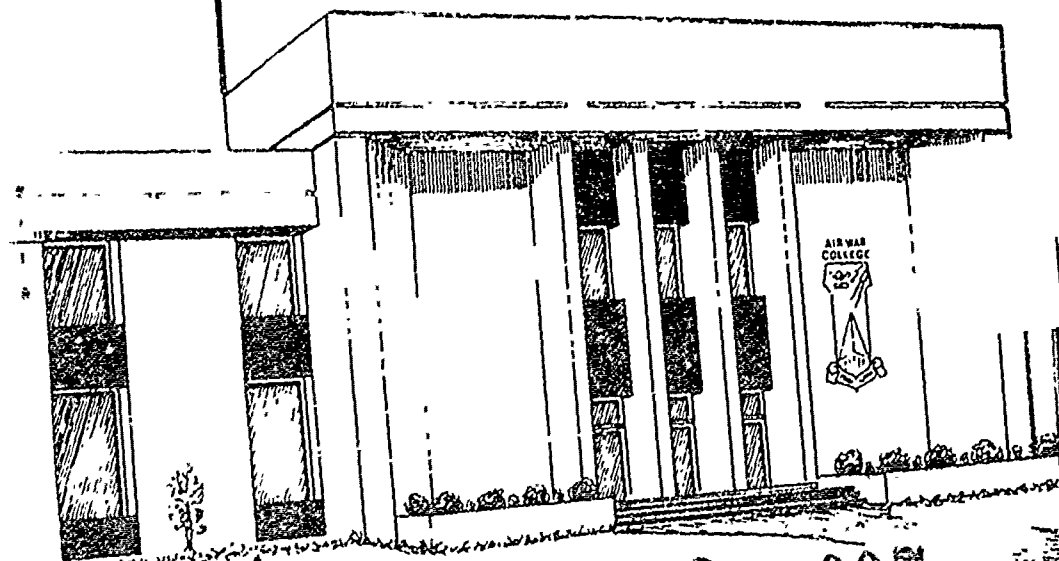
RESEARCH REPORT

PRIVATIZATION OF AIRCRAFT MAINTENANCE:
MAXIMIZING CONTRACT EFFECTIVENESS

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LIEUTENANT COLONEL MARY B. HAMLIN

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UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

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PRIVATIZATION OF AIRCRAFT MAINTENANCE:
MAXIMIZING CONTRACT EFFECTIVENESS

by

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A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

REQUIREMENT

Advisor: Colonel John A. Brantner

MAXWELL AIR FORCE BASE, ALABAMA

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EXECUTIVE SUMMARY

TITLE: Privatization of Aircraft Maintenance: Maximizing Contract Effectiveness.

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Contract aircraft maintenance constitutes an ever increasing multi-million dollar program in the Air Force. This paper provides much needed functional guidance on the process of converting aircraft maintenance organizations from military to civilian responsibility. Initial preparation for such conversions, including leadership, type of contract and work statement, and timing of contract start, are discussed in detail. There is extensive discussion on preparing the request for proposal, including vital plans requirements, evaluation criteria, costing strategy, and elements dealing with preparing the statement of work. Discussion continues with preproposal actions and source selection, including critical elements of a source selection plan. The quality assurance program is treated in detail, including personnel selection and training and the quality assurance surveillance plan. The paper concludes with recommendations for an Air Force level logistics contract management program.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Mary B. Hamlin (M.A., University of Missouri at Columbia; B.S., East Texas State University) is a career aircraft maintenance officer. She has served in major command staff and field-level maintenance assignments in both the United States and the Far East. At Randolph AFB, Texas, she commanded the 12th Organizational Maintenance Squadron from 1985 to 1987. In 1988 and through the summer of 1989, Lt Col Hamlin, a division chief on the headquarters Air Training Command staff, was responsible for much of the logistics portion of converting five undergraduate pilot training bases to civilian maintenance. She is a graduate of Squadron Officer Officer School and Air Command and Staff College, as well as Air War College, class of 1990.

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CHAPTER I

INTRODUCTION AND PURPOSE

The Berlin airlift started a chain of events which is still reverberating through aircraft maintenance: the use of civilian contract services to perform previously military-only jobs. From the first, use of civilians to supplant military personnel generated heated pro and con debates centered chiefly around cost and efficiency versus military expediency. Today, the debate rages on, unabated by 40 years of argument. However, debate has not stemmed the increasing use of contractor services to perform many jobs in the United States military, including aircraft maintenance in all three major services. Published literature on contracting out of services, or privatization as it is usually called, continues to concentrate almost exclusively on pro/con arguments or on specific cost savings. Buried within these studies is sometimes a passing note on lessons learned with that specific contracting experience. A review of such studies, concentrating on lessons learned, shows common success, failures, and confusions. However, nowhere does there appear to be a published study which focuses exclusively on important lessons learned in the privatization

of government services.

This study will examine lessons learned in the privatization of Air Force field-level aircraft maintenance. Field-level refers to maintenance performed at an individual base or unit as opposed to the more detailed depot maintenance. This paper will not debate the pro/con arguments of privatization because considerable literature is already available which discusses the subject. Additionally, this paper will not debate the issue of whether contract or civil service would function best in the maintenance environment. Instead, critical lessons from previous commercial contract privatization efforts will be examined in detail along with results and actions taken. Conclusions will be drawn as to how these lessons can be applied in future conversion efforts to maximize contract effectiveness. While this study will concentrate on Air Force examples, conclusions will be equally applicable to all military services since most such government-to-civilian conversions must adhere to common DOD contracting guidelines. In looking at lessons associated with privatization of aircraft maintenance, some brief background information will help to explain how the drive toward civilianization developed.

CHAPTER II

THE DRIVE TO PRIVATIZATION

The surge in maintenance and inspection requirements arising from the Berlin Airlift, along with increasing air reserve and foreign commitments, overpowered existing depots (1:114). By late 1948, depot backlog had increased to the point that theater support was threatened. Air Material Command's solution was "...to utilize commercial sources engaged in the overhaul of aircraft..." (2:8-9). This decision was not undertaken lightly or without realization of certain policy and operational implications, especially labor strikes, which were discussed in several studies done during that period. But these arguments did not stop the use of contractors, and by December 1950, Air Force policy on privatization of aircraft maintenance was stated as follows:

That the services of commercial organizations might be utilized for taking care of certain depot level maintenance work categories under the following circumstances: (1) When funds were available; (2) When the merit of the contract was established; (3) When the civilian organization was well suited and qualified; (4) When the contractor could do the work faster; (5) When the support of combat units was not endangered; (6) When the flexibility of the depot was not threatened (1:117).

The program worked well and was still in existence when the

Korean conflict developed, bringing with it another surge in depot maintenance workload (2:12). This crisis, combined with the Air Force's goal to increase active wings from 55 to 143, contributed to a rapid growth in contract maintenance. Despite considerable and continuing debate, privatization rapidly became an integral part of Air Force aircraft support strategy. In 1959, an Air War College paper made the statement that "...the trend toward the use of contractor support has continued upwards ever since" (2:9).

In 1960, use of civilian contractors in aircraft maintenance moved out of depot into the direct operational arena. On 1 October 1960, aircraft maintenance at Vance AFB, a pilot training wing in Oklahoma, converted from military support to the civilian contractor Serv-Air, Inc (3:atch 1, p 4). Reasons cited were for cost and manpower reasons. This conversion was followed in 1966 by another award to Serv-Air to perform aircraft maintenance for the German Air Force undergraduate pilot training program at Sheppard AFB, TX (4:Vol I, p. 42). The Air Force now had two operational flying wings with maintenance performed on-site by civilian contractors, a true revolution in support strategy.

Until 1979, there were few formal guidelines for converting government jobs to contract. However, in that year, the Office of Management and Budget formalized competition for government-sector jobs in its A-76 circular, Performance of Commercial Activities. This directive

...establishes Federal policy regarding the performance of commercial activities. The Supplement to the Circular sets forth procedures for determining whether commercial activities should be performed under contract with commercial sources or in-house using Government facilities and personnel (5:1).

Basically, the A-76 circular states that if suitable commercial sources are available and there is no compelling military reason to retain the job in government hands, then that job will be subject to a cost-comparison study to determine whether in-house or commercial sources can provide the service more economically (6:1). In-house refers to government employees, either military or civil service. This competitive procedure was formalized by Public Law 98-369, Competition in Contracting Act of 1984. It is supplemented by hosts of Department of Defense (DOD) directives and instructions which support the law for implementation, particularly DOD directive 4151.1, Use of Contractor and DOD Resources for Maintenance of Materiel.

After the election of President Ronald Reagan in 1980, contracting of services greatly increased. A 1983 report, President's Private Sector on Cost Control: Report on Privatization, defined federal goals:

Privatization, in a literal sense, means to turn over an activity, or part of an activity, currently performed by the Federal Government to a non-Federal entity. It is an option for implementing Government programs and policies, allowing the Government to provide services without producing them. Privatization seeks to increase the Government's efficiency by (1) better utilizing its scarce resources; (2) fulfilling its

responsibilities at a cost savings; (3) putting the private sector to work for the U.S. taxpayer; (4) allowing management to reap the benefit of success and carry the responsibility of failure (7:1).

Eight years of President Reagan "...brought...a sustained interest in privatization. Government services have been contracted out to the private sector at a rate unsurpassed by any previous post-war administration..." (8:31). In 1981, the Pentagon used 600,000 work-years for contract support services. By 1989, that amount had risen to 1.4 million work years, a 130% increase (8:31).

Driven primarily by the Gramm-Rudman balanced budget amendment and the Air Force's need to man new weapons systems such as the B-1B bomber and ground launched cruise missile without exceeding manpower or budget limitations, the Air Force was driven full speed into use of contractor services. In August 1986, Headquarters United States Air Force directed Air Training Command (ATC) at Randolph AFB, Texas, to conduct military versus civilian cost comparison studies on aircraft and equipment maintenance at four undergraduate pilot training bases, three technical training centers, and the undergraduate navigator training base (9:38). In 1986, the training mission at Holloman AFB, NM, part of Tactical Air Command, was also converted to civilian maintenance. In accordance with A-76 guidelines, these aircraft maintenance functions were deemed to have no wartime deployment taskings, and therefore did not have to be performed by military

personnel. In ATC alone, from 1975 to 1988, 100 functions were converted to civilian support out of 147 functions studied. These conversions reduced over 4000 spaces and saved over \$50 million (10:1).

Today, the move toward privatization is stronger than ever. "The available evidence suggests that a privatization revolution will sweep the world in the next decade" (11:205). Despite continuing debate over the appropriateness of contract manpower in the military arena, privatization of aircraft maintenance appears to be firmly entrenched policy. The job now is to figure out how to make privatization as smooth and effective as possible with minimum mission disruption. With that goal in mind, a comprehensive lessons-learned analysis follows. This analysis can help prevent future mistakes and ensure maximum effectiveness of contracts.

CHAPTER III

CRITICAL FIRST STEPS

Converting an aircraft maintenance unit to contract takes considerable time and effort. The quality of initial preparation for such a conversion will almost certainly make the difference between success and failure since all critical foundation decisions must be made before the work statement is ever written. Only the strongest organization staffed with highly knowledgeable and dedicated personnel can accurately make the decisions necessary for a successful conversion. With this in mind, the first critical step in the conversion process is deciding who will provide conversion leadership and have final-decision authority.

Leadership

Strong, involved, informed leadership at the appropriate level can quickly resolve many of the road-block questions that arise during initial conversion planning. The leadership should be of high enough authority that plans, once approved, are not vetoed at successively higher levels. If the conversion is a single operation with no other similar conversions planned, then leadership may be mostly at base level with headquarters representatives present in working

groups. However, if a series of similar conversions is planned, leadership almost certainly must come from headquarters. When Air Force base supply functions converted to contract operations, one of the primary lessons-learned was the need for the appropriate level of leadership.

Normally, Air Force contract cost studies are conducted under a decentralized base-level project management concept. While the MAJCOMs retain scheduling and study oversight responsibility, the actual 'doing' of the studies is strictly a base effort. If the same function is studied at multiple bases...a series of highly individualistic base studies usually result because no mechanism ...exist[s] to bring those projects together. Even within a single MAJCOM there is little commonalty in study approach, documentation, and methodology among studies of the same function. Any common approach to the costing process, development of the most efficient organization (MEO), or contracting strategy has been primarily the result of base level individual effort than a centralized process. (12:14)

The supply study just quoted specifically recommended a centralized, tightly controlled study process to develop and implement all details of a multiple conversion program.

Air Training Command recognized that central control would be essential to its upcoming eight-base conversion program, and so directed the entire conversion effort from the headquarters level (13). The Director of Maintenance Engineering (HQ ATC/LGM) normally provided final-decision authority, with the Deputy Chief of Staff, Logistics, (HQ ATC/LG) approving the most critical decisions. After the first comparison, the LGM established within his staff a branch (LGMMQ) designed to write most of the technical

specifications and to manage details of the conversion program. The officer leading the branch had been part of an organization previously converted to contract. Such hands-on expertise proved invaluable in preparing effective work statements and in making decisions. This branch worked very closely with the field functions being converted to ensure that requests for proposal (RFP) met both command and local needs. This specialized branch, highly centralized command and control, and immediately available decision making authority were crucial to success, especially when five bases were simultaneously in different phases of conversion. Out of this effort came an appreciation of the value of experience, cooperation and knowledge.

Experience, cooperation and knowledge cannot be overemphasized in preparing for a conversion. Planning and executing a cost comparison is far outside the experience of most technical personnel, if not a majority of most staffs. Prior experience can help prevent mistakes, and leadership must find and use personnel with such experience. Leadership must also insure that all staff elements, especially maintenance, contracting, legal and manpower, become of one mind and work in total concert. Most importantly, all staffs must develop a thorough understanding of the way contractors think with respect to what they are asked to do. In their lessons learned in converting Holloman AFB, HQ TAC emphasized that "Gentleman's agreements mean nothing. Contractors

interpret literally and then only in context with the contract" (14:2). One of the hardest things for military personnel to do is to learn to literally interpret a contractual agreement, to assume nothing. Unless the conversion team can achieve a "contractor view of the world", the contract and source selection are almost certain to be inadequate. This point cannot be emphasized too strongly and is essential before any part of the contract is developed.

Type of Contract

The type of contract to be used is one of the first decisions leadership must make. There are many contract types, and only careful study and joint staff cooperation will produce the right type of contract for the situation. After researching readily available literature, most aircraft maintenance contracts appear to be either cost or fixed-price types. Early ATC contracts were cost-plus incentive fee (CPIF) types (15:50; 16:158). However, in 1968, Afc changed its aircraft maintenance contracts to a fixed price incentive fee program (FPIF) (17:Vol 1, 206). Unfortunately, histories do not indicate why this change was made. In 1986, when ATC first faced converting eight aircraft maintenance units with a total of 4943 personnel, the maintenance, contracting and legal staffs thoroughly examined all contract types to ensure the most appropriate was chosen. The fixed price incentive contract was still deemed to be the best for ATC's needs. Later, an award fee feature was also added (18). The

command's logic in this case may prove useful for others in the process of evaluating contract types.

In the fixed price incentive fee contract, the fixed price portion is self explanatory: the contractor receives a fixed amount of money each month for satisfactorily conforming to contract standards. Provided workload is reasonably stable, this method is much easier on both the contractor and the government than is a cost-type contract. With a FPIF contract, the contractor is automatically paid a set amount and does not have to individually justify each expense as he does in a cost-type contract. The FPIF eliminates monthly haggling and makes financial planning more certain. Within the FPIF contract, the incentive portion is not an award fee feature as many observers assume it is. Instead, it is a safety valve for the contractor and an effective method for the government to help ensure continued high mission support.

The incentive portion of an FPIF contract can be an allowable overrun for unanticipated personnel costs, with part of the overrun, called a share ratio, to be borne by the government. It can also be applied as a cost underrun with much of the savings being retained by the government. These features can be very beneficial in an environment as turbulent as aircraft maintenance. In the contract, the amount of allowable overrun will be specified as well as the percentages to be paid by both the contractor and the

government. In ATC's contracts, the minimum allowable bid between target and ceiling costs on which the overrun share ratio applies is 10% of basic contract cost with the government paying 80% of the overrun (19:M-2). If the contract price is underrun 4% of the underrun amount reverts to the government. An example of the use of an incentive feature is as follows. A contractor has a large backlog in his sheet metal shop. Under the incentive provision of the contract, he uses temporary overhires which actually costs him only 2% of their salary as long as he stays below the bid ceiling of the contract. In this way, the contractor maintains most of his profit line without cutting corners, and the government receives quality service. In an example of underrun, if a contractor pays less in personnel costs than the contract price, he keeps only 10% of the underrun amount. This high government share ratio is to discourage the contractor from cutting back on skilled personnel in order to increase profits. In aircraft maintenance, continuity of skilled support is vital and the mission will suffer if such manning is allowed to drop. The FPIF contract has proven effective in maintaining support with minimal administrative burden on either the contractor or government. For additional incentive, ATC added a separate award fee feature which rewards a contractor for exceeding basic contract standards. After the contract type is determined, the type of work statement must be decided.

Type of Work Statement

The work statement must be geared to the activity being converted, and there are two primary methods for expressing this specification: the performance work statement (PWS) based on AFR 400-28 and the statement of work (SOW) based on AFR 400-29. While PWS and SOW specifications can look very much alike, there are important differences that should be considered. Most service contracts which includes aircraft maintenance, are written with PWS-type technical specifications. Air Training Command used a PWS format in contracting for maintenance of aircraft and training equipment at their three technical training centers. The PWS format proved to be unsatisfactory for a large, complex organization responsible for detailed technical work. All remaining contracts were written with SOW-type specifications, and current PWS specifications may be converted to SOWs when those contracts are renegotiated. The differences between these two types of specifications is important in an aircraft maintenance contract.

The PWS is intended to concentrate on the end product. For example, when a contractor cuts the grass, the final determination of quality is the height of the cut, curb edging, etc. The Air Force probably does not care what equipment the contractor used or how, specifically, he did the job. The end result is the only measure. When evaluating a contractor, AFR 400-28 specifically says that

the government's surveillance plan is intended to provide "...a systematic method to evaluate the services the contractor is required to furnish and not the details of how the contractor accomplishes the work" (20:A-35). The regulation consistently emphasizes contractor output as the basis for evaluating performance. This method is totally unsatisfactory for aircraft maintenance where in-process inspections are at least as important as the end output. For example, T-38 canopies and flight controls are rigged to the thousandth of an inch. Only by surveilling such work being done can the government insure proper rigging, and this example hold true for many other areas. An after-the-fact visual inspection often means nothing. For these reasons, a SOW is better suited to technical area contracts.

The guidance in AFR 400-29 is intended for "...major operation and maintenance service contracts...that may provide for one general category of service which is technical in nature or may include a combination of several base level operating support services or both" (21:2). The pamphlet goes on to say that "Functional managers must identify all basic tasks which are required and identify subtasks by particular required skills" (21:7). Clearly, the emphasis in a SOW specification is on how the work is accomplished as well as the end product. Using the best of both methods, ATC's contracts use elements of AFR 400-28, but with a SOW technical specification. The resultant RFPs have

worked well in the bidding process, with standardization used to good effect.

As was mentioned earlier, if the contracting effort involves multiple units doing the same type of work, a standardized core SOW is a necessity. When the Air Force contracted supply functions, the working group decided

...to develop one core PWS that outlined those duties and responsibilities common to all world-wide base level SBSS [Standard Base Supply System] organizations. The cost study bases would then add their base unique requirements to the core PWS (12:18).

Air Training Command adopted this approach (22). A headquarters working group of maintenance, contracting, manpower and legal specialists, using field-level inputs and personnel, developed a core SOW which encompassed all tasks to be performed by every ATC aircraft maintenance unit. Each field unit then added to the core SOW its own specific requirements, subject to headquarters approval. The whole thrust was to keep centralized control of the process to ensure contract compatibility with essential Air Force and command technical and operating requirements. Along with decisions on contract and work statement type, timing of contract start can influence success.

Timing of Contract Start

Timing on contract start can affect both contractor chances for early success and headquarters' options if things go wrong. Decisions on conversion start, in association with such factors as option exercise dates, holidays and workload

need to be carefully considered.

Base Period and Option Years

Most contracts are written for a specified base period with multiple year renewal options. Because of funding considerations, many contract option years start in October. Problems can occur if the period between contract start and the first renewal option is too short. For example, if a contract starts on 1 April with the first contract option to be exercised on 1 October, it is virtually impossible to recompetete the contract, if necessary, before the option decision must be made. Air Training Command found itself in this position when a contract that started on 1 April failed to provide satisfactory performance. After working with the situation for several months, there was not enough time to recompetete the contract by the 1 October option exercise date, and the command was forced to retain the contractor for the next option year. Working with the problem, the command made several operational decisions which stabilized the situation until recompetition and new contract start could occur. From this process came the lesson that the new contract basic period needs to be as close to a full year as is practical to allow proper contract decisions. Recompetition of large contracts requires at least nine months after RFP release, so the first option year decision must be made quickly. The contract start decision can also be influenced by other factors.

Holiday Period Considerations

Experience has shown that starting a new contract over a major holiday period can produce unnecessary problems, as TAC discovered when they started the Holloman AFB contract on 1 January. The contractor had trouble recruiting, training and mobilizing new personnel in the long holiday period. Generally, personnel were not willing to uproot their families and move in the week before Christmas, a time when most moves to the work site should have been taking place. Fortunately, the Holloman contract specified a long phase-in period so the resident military structure made up for any initial contractor shortfalls. However, the experience served as a valuable lesson in timing considerations. Timing on workload is also important.

Workload Factors

Workload factors need to be considered. If the unit being converted has a highly variable workload, starting a contract during a low demand period can help the contractor establish himself. This was another lesson ATC learned. The command has heavy summer flying, with less flying in winter months. Air Training Command found it was best to start contracts in the fall when the workload was on the decline but before the holidays. This gave the contractor time to get established before the next heavy flying period, and left the unit more latitude to work transition and scheduling problems. Contracts started in the spring with workloads

increasing invariably produced more problems than those started in the fall. With multiple conversions, even more timing decisions must be made.

Managing Future Recompitations

Because of factors beyond its control, ATC found itself in the position of having five new contracts in work at the same period, with all the contracts starting within a few months of each other. Headquarters staff personnel routinely worked long days and weekends in order to manage the load; and multiple, simultaneous source selections siphoned off even more manpower. Determined to never again have his staff in that position, the ATC/LGM structured contracts with different numbers of option years to limit the number of recompetitions in any one future year. After the first round of initial recompetition, all contracts will be returned to a normal five year basis (one basic year plus four option years) to maintain a smooth recompetition schedule.

Business Strategy Panel

All of the initial decisions just discussed should be made in or approved by the business strategy panel (BSP), a meeting of all involved agencies to discuss the entire contracting sequence of events. Since a normal contracting sequence takes 15-18 months, the BSP must meet in time to make and staff necessary preparatory steps. The importance of this meeting cannot be overstated since it defines the

path of all subsequent steps and should orient the staff to one line of action.

Other Initial Considerations

Besides the initial decisions already discussed, several other critical factors need to be considered in the first stage of working a conversion. The most important of these is the need to have a backup plan if the conversion does not work.

Backup Plans

Unlike some services where military or other civilian personnel can be immediately put in place to perform labor when a contract fails, aircraft maintenance requires a highly skilled, highly organized and competently led workforce. If the contract fails, the mission stops unless the effort can be temporarily continued until the contract can be recompeted, normally a period of several months even in an emergency situation. Air Training Command faced the possibility of this situation when an initial conversion contractor had significant problems fulfilling the terms of his contract. Through a complicated, headquarters-controlled effort, some work was diverted to other locations, all of which the contractor paid for. At the beginning of this conversion effort, the command did not have a backup plan, thinking failure was remote. Luckily, ATC had military resources at other locations to immediately absorb some of the workload, but that option will not be available when the

rest of its bases convert to contract maintenance. In response, the command developed a plan to deal with failure of any type (strike, default, termination for cause) in its aircraft maintenance contracts. Carefully coordinated with all command agencies, this plan represented a costly but valuable lessons-learned in planning ahead.

Challenges and Appeals

Another lesson learned was that these conversions will draw challenges. After an initial period of innocent optimism in which command personnel thought that contracts properly written, properly competed and properly selected would proceed smoothly, these same personnel came to realize that "friction, challenges and appeals" would always accompany conversions. Since ATC had a large number of civil service personnel working in aircraft maintenance, the civil service unions actively supported their members by either trying to stop or delay studies that resulted in conversion to contract. These included administrative appeals to the command as well as letters to senior Air Force officials and members of Congress. As one contracting study pointed out, "Federal employee unions are tightly entangled in cost study issues and controversies" (23:16). In the one instance where civil service won the contract, the highest rated competing contractor filed costing protests at several levels, including the General Accounting Office. Likewise, the contract problem previously mentioned caused direct

congressional intervention, and the resultant uproar led to congressional hearings on the whole program (24, 25, 26). The Canadian government experienced the same sort of problems in their attempt to award a one billion dollar contract "...to service and maintain Canada's 138 new CF-18 jet fighters over the next 20 years" (27:15; 28:14-16). Like the Canadian government, the command quickly learned that contractors will not graciously accept non-selection for a \$60-\$85 million dollar contract, civil service employees and their union representatives will not graciously accept loss of any in-house positions, and congressmen are keenly interested when any major change takes place on a military base in their district.

The effect of appeals should be considered in the planning process because resolution may take many months. Some appeals may last so long that the initial conversion date cannot be met. Leadership responsible for the program needs to carefully plan for this eventuality, working closely with their personnel functions. In-place military personnel may have to be retained on station after planned departure dates in order to continue the mission.

Command and Control

Planning for command and control is also important. The staff implementing the conversion needs to consider command and control measures vital for both the government and the contractor. The contractor needs access to certain

military command and control functions, such as autovon and mail. When a station's aircraft are cross-country at other bases, the contractor must be able to track status. This is a common core requirement to any maintenance unit, and commercial telephone is not satisfactory for routinely communicating between military bases. While the contractor may be able to use commercial lines, the cost will ultimately be borne by the government in contract costs. Additionally, most military units cannot easily place large numbers of commercial calls. Maintenance units are a high-volume user of autovon for command and control and having a contractor does not change this requirement. Consequently, the contractor should be provided minimum essential autovon lines. The same is true of other government communication methods.

The critical first steps discussed in this chapter are by no means an all-inclusive list. However, they are some of the most important and, if ignored, can put a conversion at risk. Once these first core decisions are made, the request for proposal can be written.

CHAPTER IV

PREPARING THE REQUEST FOR PROPOSAL

The RFP, in total, contains not only the work statement, but other critical requirements as well. While the SOW is certainly key to long-term contract administration, other elements are also vital to contract success. Maintenance managers sometimes concentrate on the work statement to the detriment of the rest of the RFP, mainly because they do not fully appreciate the importance of the other factors. Those who participate in conversions to contract must fully understand and insure full integration of all elements of the RFP.

Vital Plans Requirements

Some of the most important specifications in the RFP should be the requirements for contractors to furnish plans with their bids which define how they will recruit, train, and transition to assume the workload. In organizations as large and as complex as aircraft maintenance, these plans must be critically examined to insure the contractor understands and can accomplish all technical requirements of the SOW. Recruiting and training of personnel are two of the most important plans.

Recruiting and Training Plans

The strength of the recruiting and training plans tells the source selection group how well the contractor understands the type of skills he needs and how available these personnel are on the current market. ATC source selection groups have seen clear evidence that some bidders have no idea how to recruit and train a quality workforce, especially in the critical avionics/electronics areas. Other literature also reflects this finding, with one article stating that in new contractor workforces, "...absenteeism is higher, employee turnover is greater, and the new contractor workforce is inexperienced" (29:3). As a result, ATC now requires bidders to submit a highly detailed recruiting and training plan with their bid proposal (30:2).

Contractor recruiting and training plans must include not only recruiting estimates, but anticipated turnover rates as well. Turnover rates are one area where particular caution should be used. Experience around the Air Force has shown that contractors tend to seriously underestimate this factor (12:36; 13; 31). In the case of the one ATC major contract which did not have all option years exercised, the contractor greatly overestimated the number of skilled personnel he could hire and, therefore, did not plan for the extensive training program needed to qualify his workforce (31; 32:9). In addition, his yearly turnover rate approached 30%, greatly increasing training requirements. In time, his

organization suffered for lack of trained personnel (13). Requests for proposal must mandate that detailed recruiting and training plans accompany bids and they must be realistically evaluated in light of the current personnel market. The same considerations must be given to the transition plan.

Transition Plan

The RFP must include the requirement for a detailed transition plan for mobilization and changeover (13; 22; 30:2). Air Force Pamphlet 400-29 discusses this requirement in detail and should be carefully followed when the RFP is written (21:C1-9). In the mobilization section, the contractor must show how and where he intends to hire and physically train his initial personnel, when he intends to hire and have top management personnel report, and when he intends to start initial interface meetings with the Air Force. In the changeover portion, the contractor must clearly indicate how he will assume all required duties. After ATC gained experience with contracting, the command found it to be in the government's interest to specify limits on transition periods. For example, ATC requires that mobilization start not later than 60 days prior to contract start date and that total workload assumption be completed by 90 days after contract start. During the three month changeover period, contractor personnel will phase in while military phase out. During this period, military personnel

will overlap with the contractor, assisting in accomplishing the work. The transition plan must tie in with the training and recruiting section since the quality of initial hiring will determine how soon the contractor must hire personnel in order to have them trained by work start date.

Essential to the entire transition evaluation process is having some way to judge how much effort the contractor is planning to put into his transition program. For this reason, ATC now uses a separate costing line item which forces the contractor to show how much money he intends to spend on mobilization before contract start. A small expenditure indicates small plans, despite the words he may use in his bid proposal. Evaluation of a contractor's transition plan in concert with his proposed spending for that plan is the only way to effectively judge how much effort he intends to put into transition.

A second and equally important portion of the transition plan is a requirement for the contractor's phase-out program should he lose the contract when it is recompeted. While a contractor may be very cooperative with the government on receiving the initial contract, he may not be nearly as cooperative with another contractor who is coming in to replace him. This requirement must be carefully written because it is vitally important for smooth mission continuation during future changeovers.

As a general lesson learned, contractors tend to

overstate recruiting, training and transitions plans. Consequently, ATC now makes these portions of the winning contractor's bid legally binding and this requirement is stated in the RFP. Once accepted by the government, the contractor cannot reduce the scope of his stated efforts in recruiting, training and transition.

Other RFP Requirements

General requirements for an RFP are contained in Air Force regulations as well as in numerous contracting guidelines. However, these guidelines do not emphasize areas which experience has shown to be of particular interest in aircraft maintenance contracts. The above discussion on plans is just such an example. The following sections will discuss other RFP considerations which can lead to higher quality bids and a more informed source selection process.

Evaluation Criteria

In preparing the RFP, ATC found it received better bids if it was as specific as possible about evaluation factors for contract award. The RFP can contain many evaluation criteria without revealing source-selection sensitive material. For example, in one contract, Section M, "Evaluation Factors for Award", says

The offeror's proposal shall, as a minimum, address each of the following areas separately. Each area of each technical proposal will be assigned a color rating and have a narrative evaluation reflecting its strengths, weakness, and risks. The required proposal areas are listed in descending order of importance:

- a. Technical Merit

- (1) Manpower and Organization
 - (2) Mobilization/Changeover
 - (3) Understanding the Mission (Policies and Procedures)
 - (4) Past Experience
- b. Cost/Price (19:MS-6)

The section then goes into considerable detail on what information each bid is required to contain and how the government will evaluate information for each of the technical and cost areas listed. Through this process, the government sends a clear signal as to those areas it considers most important. In turn, it receives bids which more accurately represent the contractor's understanding of the mission, making source selection more accurate.

Costing Strategy

Along with being very specific about technical requirements, ATC also specifies certain costing parameters. During source selection, the command saw wildly fluctuating profit and share ratio proposals. Some companies actually bid little or no profit in an apparent attempt to "buy into" the contract. Through experience with the conversion process, ATC found that a contractor not making a profit was an unhappy, uncooperative, unresponsive contractor. To combat this problem, the command decided to specify minimum profit and share ratio bids. It set the minimum profit bid at 3% (higher percentages, but not lower, may be proposed), and set the share ratio percentages at 90/10 for underruns and 80/20 for overruns (the government's share is always the top figure while the contractor's share is the lower figure)

(19:M-2). This strategy forced a more uniform costing process and helped keep bids within the realm of reason.

Another costing strategy ATC adopted is to make the bidders specify their lapse rate, if any (19:M-7). Stated as simply as possible, the lapse rate is the difference between the manpower the contractor proposes in his bid and the amount he actually intends to have on board. For example, a contractor who bids 500 personnel may, on the average, only be paying 475 personnel because of delays in hiring, excess sick leave, excess annual leave, etc. While the contractor may propose 500 personnel in the technical portion of his proposal, his costing portion may only show him paying for an average of 475, a significant difference. Lapse rate information keys the technical evaluation team as to his true hiring intentions. The lapse rate, if not clearly open to inspection, easily becomes a hidden agenda for a contractor to propose a lower cost bid than his proposed manpower would indicate. Since lapse rate is a corporate concept unused in the military, it is an example of why conversion managers must be familiar with a contractor's way of doing business.

Use of Department of Labor (DOL) Position Descriptions

In evaluating its first proposals, ATC discovered that military skill levels (5-level, 7-level, etc) were not well understood by contractors. Because of the criticality of certain jobs, ATC specified minimum skill level manning for these select positions. The contractors replied using

DOL position descriptions which ATC then had to research to determine if they were acceptable (31). Through this process, ATC also discovered that there were three or four salary levels within each DOL position description. If the contractor bids a low mix level for most positions, then he is likely to have trouble hiring and retaining top quality personnel. The bids must be carefully evaluated for the level of skills proposed. Overall, the command learned that DOL language is the only acceptable method of communications to talk skill levels with a contractor. It also provides another example of learning to "talk contractor".

Page Length Restrictions

The need to limit bid proposal length was also the result of experience. The initial proposals that ATC received were often in excess of 1000 pages each. With an average of 10 or more proposals received, the source selection team could not adequately evaluate proposals within a strict time limit. As a result, the command now limits proposals to 500 pages, "...including primary text, tables, figures, attachments, appendix, tabs, etc" (19:M-3). All pages in excess of the limit are removed from the proposal. This action forced the proposals to concentrate on primary information.

The Statement of Work

The very heart of the RFP and the part with the most long-term consequences is the technical work statement.

Effective administration of all contracts is directly related to the contract statement of work (SOW). The more general that document, the more chances for disagreements and problems regarding interpretation. Therefore, the key to good contract administration begins with the preparation of a quality SOW (21:C2-14).

The Air Force pamphlet just quoted goes on to say that each SOW must be tailored to fit the individual needs of the situation and that

The preparation of SOWs for service contracts is usually inhibited by the requiring organization's difficulty in specifying definitive and unequivocal work requirements compatible with the constantly changing operation and maintenance work environment. Although it is difficult to state realistic fixed and definitive requirements in the work statement, doing it is essential to a sound contract (21:C1-6.1).

SOW requirements must fit the circumstances, always with an eye toward how the contractor will interpret the language used. While this is a long and tedious process, the contract is ultimately only as good as the work statement. Within an aircraft maintenance SOW, there are certain provisions which should be carefully considered and which have caused problems in other contracts. This section will discuss those provisions.

Equipment Accountability

One of the most important and difficult issues that must be resolved in any aircraft maintenance contract is government furnished (GFE) versus contractor furnished (CFE) equipment (33:1). When a contractor assumes a contract, he usually receives a large amount of government-furnished

equipment to be used in performing the job. The equipment typically ranges from simple hand tools to complex shop equipment. Some of the equipment, such as heavy shop items, will usually remain government property; and some, such as simple tools, may revert to contractor-furnished equipment. As AFF 400-29 states

Assumption of Government property accountability and responsibility is a significant aspect of the transition period. The proposers should be required in the RFP to indicate their agreement to accept the existing official property records or to provide a procedure to arrive at an inventory and a subsequent acceptance of accountability and responsibility (21:C1-9)

The contract must contain an item-by-item list of every piece of government equipment to be used by the contractor, and the contract must be very specific on condition inspections, inventory intervals, and replacement responsibility. In order to achieve a mutually agreed list, a joint government/contractor inventory of all equipment should be performed before contract start. The SQW should also specifically require the incumbent contractor to cooperate with a replacement contractor on subsequent contract turnovers. Experience has shown that at least 14 days should be allocated to this task (34:2). This inventory forms the basis for all subsequent contract negotiations on equipment and must be accurate or the government will end up paying for repairs or replacements which should have been borne by the contractor. Equipment inventory is truly one example previously quoted where "Gentleman's agreements mean nothing"

(14:1). Details and specifics are the key to managing GFE/CFE.

Contractor Cooperation in Other Programs

Civilian contractors recognize their part in the mission, but they are bound only by the terms of their contract. For this reason, the government should be specific in areas where certain types of results are desired such as cooperation with agencies outside the normal mission and toxicological testing.

During the course of a contract, a contractor will need to cooperate with inspection teams, work with depot field teams, conduct special inspections, provide accident investigation assistance, and other activities. Legal assistance to the Holloman AFB contract determined that, for most areas, contractor assistance must be unlimited but not necessarily at no cost (35:para F6). For the protection of both the government and contractor, the SOW should identify possible overtime situations and set a fixed hour limit on no-cost support of such activities. This need surfaced during support of time compliance technical orders (TCTO) greater than 25 hours in length (35:para F20). Technical Order 00-5-15 implies that any TCTO which exceeds 25 hours is to be accomplished by depot. However, military units routinely accomplish TCTOs which far exceed this limit. This type of issue must be clearly resolved in the contract to prevent reimbursement haggling in future support situations.

Another thorny cooperation area that may need to be addressed in the SOW is contractor support of toxicological testing. When serious accident or injury occurs, the government usually subjects those involved to toxicological testing. Depending on the controlling agency's desires, the contract may include a clause which requires the contractor to have a toxicological program. The government cannot directly exercise this right over contractor employees. Rather, the contractor must have his own program and be prepared to show evidence of compliance to the government.

The government will not exercise any supervisory control over contractor or subcontractor employees performing services under this contract. Such contractor or subcontractor employees will be accountable to the contractor who, in turn, will be accountable to the Government (21:C1-11).

The legal language is exacting for this program and its application to a contractor is still in flux.

Use of Government Publications

One of the biggest traps in an aircraft maintenance contract is to directly quote government publications. The regulation governing SOW preparation says "When a publication must be mandatory, it should not be referenced in a SOW. The pertinent parts of the publication should be placed directly in the SOW" (21:10). Air Training Command took direct exception to this requirement. If a publication is quoted directly in a contract, then the contract is law no matter how much the publication changes subsequent to contract start. Only with an amendment can the contract change and

amendments always put the government at risk for higher costs. This consideration can be especially critical for technical order changes which necessitate immediate compliance. Rather than quote publications directly in the SOW, ATC made publications, or parts of publications, mandatory. Specifically, ATC's contracts use the language "IAW AFR XX, the contractor will...", with general, not exact language describing the requirement. The SOW also specifies that subsequent publication changes will be instituted at no cost to the government unless the change is of such a magnitude that it alters the scope of the contract. Directly quoting publications in a contract is dangerous practice unless there is compelling reason to do so.

While the RFP, as just discussed, is the key to a good contract, source selection is the key to a good contractor. The next chapter will discuss preproposal actions and source selection.

CHAPTER V

PREPROPOSAL ACTIONS AND SOURCE SELECTION

Once a RFP is released to solicit bids, a number of actions are set into motion. The aim of these actions is contract award to the company which can best fulfill the mission. The most important of these actions from a technical manager's point of view are the preproposal conference and source selection.

Preproposal Conference .

The preproposal conference is ideally a combination information forum and site visit where prospective bidders inspect the work location and clarify points in the RFP with both contracting and maintenance representatives.

The preproposal conference with prospective proposers is a valuable part of the solicitation process which provides a forum for clarifying requirements, identifying errors, and supplementing technical instruction.

a. The preproposal conference affords an opportunity for the contracting officer and the technical staff to rectify omissions or errors in the RFP, to validate the industrial community's understanding of the requirement, and to minimize protest actions based on erroneous interpretations (21:8).

The preproposal conference is best held after bidders have had sufficient time to receive and study the RFP but before they have written much of their proposal. Because most

bidders ask for various manpower and workload data under the Freedom of Information act, the person arranging the conference should consider providing a set of standard reports to each contractor at the preproposal conference. This helps eliminate large numbers of independent requests for this data, and reduces the number of questions.

Many questions are always asked at the preproposal conference. Simpler questions can be answered during the site visit, but more complex questions need to be submitted in writing to the controlling agency. Air Training Command placed this responsibility in the headquarter's LGMMQ maintenance contracting branch. This function answered the technical questions themselves and staffed other questions to appropriate agencies. The volume of questions received was always very large, often 20-30 per prospective bidder, and answering these questions took much more time than had been originally anticipated. Because of the volume, timeliness became a factor and had to be watched very closely. These questions required immediate turnaround since delay could impact the contractors' ability to submit a proposal on time, and any delay could ultimately be a basis for protest of contract award. Questions also often indicated the depth of contractor knowledge about field-level maintenance organizations and helped clarify many points. Overall, the preproposal conference and questions process are important steps to receiving better bids which then must be evaluated

in the source selection process.

Source Selection

Next to having a solid, complete contract, source selection is the most important part of the solicitation process. The foundation of good source selection is the source selection plan.

The Source Selection Plan

The source selection plan is a detailed written guide which selection team members use to evaluate proposals. Extreme care and thought must go into the preparation of this plan, and errors in any part could result in less than satisfactory contractor selection. The function that prepares the plan must clearly specify what factors it considers most important and these factors must be adequately described with incremental breakdowns so that selection team members can thoroughly evaluate the solicitations. A short discussion of typical factors was given in Chapter IV in the "Evaluation Criteria" section. For example, if manpower is considered an important factor, then the source selection plan should include guidelines for the team; ie, if the controlling function judges that a minimum of 500 personnel are needed to adequately run an organization, then the plan might have selection criteria that indicates bids of 500 personnel and above would normally receive at least a satisfactory rating on that portion. A bid of 475-500 might be marginal, and all below 475 might be unsatisfactory.

Similarly, criteria to rate the recruiting plan must include a current assessment of available skilled personnel, both locally and nationally. Without such independent assessment, the selection team cannot possibly differentiate between accurate and absurd hiring projections. The plan must also emphasize that a proposal which just quotes regulations and reframes language in the RFP is unsatisfactory. The contractor must clearly show that he understands the mission and organization. This level of thought and decision must be given to all selection factors and must be clearly stipulated in the selection plan. For each proposal evaluated, the team is required to develop a written report on the strengths and weaknesses of the proposal, and what factors were used for assigned ratings. Only with a clear, unambiguous plan can ratings be objectively determined. The panel should not have to make policy decisions as a part of the selection process. Their job is evaluation against a set of command criteria. The more accurate, more detailed those criteria, the more successful source selection will be.

The Source Selection Team

The source selection team is the group of technical personnel charged with selecting the best contractor to perform the mission. "Best" does not necessarily equate to "cheapest", or else a simple bottom-line figure would automatically determine the winner. The source selection team, using the source selection plan, evaluates proposals to

determine technical merit and highest probability of success among bidders. The team must be structured so that an appropriate mix of specialties and experience is represented. For each team, Air Training Command used a mix of headquarters personnel and personnel from the base under source selection. If questions concerning that location's operation needed to be answered, the field members could usually provide the answer on the spot. Personnel on the team performed full-time selection duty during the source selection period.

Under ATC's system, each team member was given a specific area of the SOW to rate in order to maintain consistency. Before the start of the actual rating process, the team chief held practice sessions with sample proposals, and included discussions both on rating the material and writing the critique. These practice sessions not only helped insure consistency, they taught team members how to tell the "wheat from the chaff." Contractors use professionals to write their proposals, and their products are glowing sales documents. But glowing words and colored charts can hide serious technical deficiencies. In general, ATC found that even major aircraft corporations occasionally had serious deficiencies in their knowledge about command maintenance needs, presumably due to a lack of technical expertise on their staffs. The practice sessions concentrated on techniques for wading through fancy verbiage

and for recognizing unreasonable estimates. Members were also briefed on all aspects of the law regarding source selection, with special emphasis on personal integrity and proceedings security. Throughout source selection, technical members, contracting personnel and legal experts formed a tightly meshed group to ensure the highest caliber selection actions. The main point is that while the source selection plan is important, close staff action makes selection work.

Once source selection is complete and the contract started, it is the government's quality assurance evaluators (QAE) who provide daily monitoring of contractor actions. The next chapter will discuss the QAE program and its importance in contract administration.

CHAPTER VI

QUALITY ASSURANCE PROGRAM

The government's quality assurance program is a pivotal element in contract success and administration. Government quality assurance evaluators (QAE) are "...the [contracting officer's] eyes, ears, and teeth. They must be given the wherewithal to ensure we get what we pay for" (14:2). Planning for QAE selection and training, and preparations for the quality assurance surveillance plan (QASP) should begin far in advance of contract start (18). Like the statement of work, the quality assurance program is in action every day of the contract's life, and great care and thought must go into its preparation. Elements such as personnel selection and use, training, and QASP preparation are all critical to the government's assurance of a properly executed contract.

Personnel Selection and Use

Great care must be exercised in selecting personnel to perform QAE duties since both technical competence and personality are important success factors.

The QAE is an important member of the contract administration team. To a great extent, the QAE sets the tone of the working relationship between the contractor and the government and influences

the quality and timeliness of the contractor's performance; therefore, the nominee must be knowledgeable and able to use mature judgement (36:2).

As ATC discovered early, personnel who do not possess interface and negotiating skills make poor QAEs. A tense QAE-contractor relationship will almost certainly affect contractor flexibility and willingness to work with the government on changing requirements. Utmost care must be put into selecting QAEs and this program needs to start early.

Quality assurance evaluators should be selected "...early in the acquisition process and they should participate in all phase from planning to contract completion" (36:2). Air Training Command found that QAEs needed to be selected at least six months in advance of contract start (22) so they can be trained and have time to "...set up the quality assurance plan, MOIs [maintenance operating instructions], equipment accounts, safety program, FCF [functional check flight] procedures, etc" (34:3). In the initial round of contracts, ATC chose most of its QAEs from the site being converted. Since these personnel were already technically qualified, they needed only cross-utilization and QAE training to be ready for duty. However, as these evaluators require replacements, ATC anticipates having to hire personnel who have little, if any, technical qualifications on the systems being used. For this reason, the command established an extensive training and qualification program which will be discussed later in this

chapter. In order to maintain some stability in the QAE program, ATC is using a mixture of approximately 50% military and 50% civilians as evaluators, all of whom are being cross-utilized in selected technical areas.

Per AFR 26-1, QAE manning for A-76 conversions is determined by the size of the most efficient organization (MEO) manpower bid (ie, the in-house bid) regardless of whether in-house or commercial sources receive the contract (37:47). For example, a MEO bid of 525 personnel authorizes 14 QAEs (12 technical personnel) to surveil whatever size of contractor workforce wins the bid. In contrast, QAE manning for direct conversions is determined by workload studies. The main point is that there will never be enough personnel authorized to have a separate QAE for each of the individual specialities in an aircraft maintenance organization. Therefore, the QAEs must be cross-utilized in several areas. In order to set up a training and certification program, and to aid in hiring future QAEs, ATC established a standardized technical specialty and crossflow structure (38:1). Eventually, all ATC undergraduate pilot training (UPT) base QAE programs will follow the structure shown in Table 1 (with minor local variations based on the number of QAEs authorized). The program needed to provide cross-flow training and special certification is extensive, but is absolutely necessary for adequate contract surveillance.

TABLE 1: AIR TRAINING COMMAND UPT QAE STRUCTURE

	<u>AFSC</u>	<u>Title</u>	<u>Inspection Areas</u>
1	4016	Maintenance Officer	Budget Management Program Management
2	70250	Administration	
3	65170	Contracting (with CO)	
4	45299	Superintendent	Job Control, Quality Control, Training management, and Scheduling backup
5	45470A	Engines	Support Equipment, Chemical Cleaning, Engines, and CASS (ATC air handling system)
6	45470A	Engines	Same as above
7	45871	Nondestructive Inspection (NDI)	NDI, Hazardous Waste, Reparable Processing, Survival Equipment, Backs up Structural Maintenance
8	45872	Structural Maint	Machine Shop, Welding, Sheet Metal, Corrosion Control, Backs up NDI
9	45571	Instruments	Communications, Navigation, Instruments, Electrics, Battery Shop, Backs up PMEL
10	32470	Precision Measurement Equipment Lab (PMEL)	PMEL, Backs up Instruments
11	39270	Scheduler	Plans and Scheduling, Data and Engine Management, Programs and Mobility, Computers, Backs up the Superintendent
12	45274M	Crew Chief	T-37 Scheduled and Unscheduled Maintenance, Transient Alert, Egress, Fuels, Hydraulics, Mechanical Accessories
13	45274M	Crew Chief	Same as above
14	45274M	Crew Chief	T-38 Scheduled and Unscheduled Maintenance
15	45274M	Crew Chief	Same as as above

QAE Training

Quality assurance evaluators must be trained to surveil those areas with which they are charged.

The QAE must have technical knowledge and experience sufficient to permit the QAE to observe contractor performance and to determine whether the service either does or does not meet the standards described in the contract and related documents (36:3).

Because of the cross-utilization pattern just described, ATC developed an in-depth training program to qualify all present and future QAES working aircraft maintenance contracts. The training program consists of both contracting and technical area subjects.

The ATC aircraft maintenance QAE training program consists of four phases: classroom, field training detachment (FTD), job proficiency, and local conditions. The classroom training is a formal, Community College of the Air Force accredited course which all QAES must attend within six months of being hired. The course, taught by the Headquarters ATC/LGM Maintenance Management School, is three days in length and includes contract acquisition programs, contract designs, administration, and surveillance methods/procedures (39; 40:1). After the formal course, QAES receive FTD technical training designed to qualify the individual in whatever technical areas are needed. The QAES for the initial conversions received their cross-utilization training on-site. After all conversions are complete, only Randolph AFB, Te., will retain a T-37/T-38 FTD unit. All

subsequent QAEs will receive technical training at that location, as well as job proficiency training. After FTD training, QAEs will spend time in the appropriate Randolph AFB flightline and shop areas to become task proficient. Headquarters ATC/LGMMP is preparing a core task training list for each type of QAE. Finally, the QAE will receive local conditions training at their home station, given by either the chief QAE or the base contracting officer (40:1-2; 41:1-2). This extensive training program is intended to produce a QAE highly knowledgeable in both contracting and technical areas. With this training and a well written quality assurance surveillance plan, the Air Force can be assured of accurate contract monitoring.

The Quality Assurance Surveillance Plan

The quality assurance surveillance plan (QASP) is the guideline QAEs use to judge contractor performance and proficiency. The QASP should be developed in much the same way as the SOW: in a group effort with personnel knowledgeable in both contracting and technical areas. "Key to developing a success QASP is teamwork by functional, manpower, and contracting experts" (12:23). Until the recent set of contract studies, ATC had let development of a QASP be a local matter. As part of the contracting program, ATC compared all existing aircraft maintenance QASPs and found few points in common. The QASPs tended to be based on the individual specialities assigned rather than on areas to be

surveilled. For example, one location which did not have an avionics background QAE assigned had almost no avionics items in its QASP. All QASPs showed an imbalance in surveillance areas. As it did with the SOW, ATC developed a standardized core QASP to which local items were added, and the core QASP was developed by the same type of group that developed the SOWs. In developing a QASP, it is important to remember that

Given a good SOW, [it is] government policy that the contractor is responsible for quality. Government personnel involved in quality assurance should not be doing the contractor's quality program (21:C2-14).

Making the differentiation between quality control and quality assurance is important. The contractor must police himself, and the government must insure that he does.

QAE Conference

To help keep standardization in the QAE program and solve common problems, ATC/LGM established a semiannual QAE conference. This conference is a forum to discuss techniques, solve problems, communicate, and relay concerns and needs to headquarters and other QAEs. The base contracting officers are also invited and most attend. The conference has proven to be exceptionally productive, especially in the first year of a contract. As a result of information obtained in the QAE conferences, ATC has modified several regulations and has produced a better QASP than would have been possible otherwise.

In the final analysis, the QAE is the government's

daily line of defense to insure contract compliance. The QAE program starts well before the contract because it must be fully developed and functional on day one, showing

...the need for early QAE training and their being in place before contractor start up. When a large activity...converts to a contract operation, a trained QAE staff can serve as an effective transition activity to enhance communications and smooth the implementation process (12:23).

The right statement of work, the right contractor, and the right QAE program are three basic elements of successful mission accomplishment.

CHAPTER VII

RECOMMENDATIONS

Based on review of available literature and on discussions with other personnel experienced in converting logistics functions to contract, many of the same lessons have been repeatedly relearned. This wasted time and effort is largely a result of not having central leadership at Air Force level for contract programs. When a command plans a conversion, they more or less go it alone. While HQ USAF/PR oversees A-76 programs, they are a manpower agency chartered to give procedural, not functional, guidance. For units facing direct conversion, there is not even procedural guidance. Contracted logistics programs, including maintenance, supply, transportation, fuels and transient alert, now cost more than one billion dollars a year in ATC alone (42). An agenda of this magnitude requires Headquarters Air Force leadership and a well defined, carefully implemented contract management program.

HQ USAF/LE/PR Guidance on Contract Programs

Headquarters USAF, both logistics and manpower, need to issue firm functional guidance on overarching contract logistics matters. Air Force Regulation 26-1, which details

how to do an A-76 cost comparison study, is only procedural guidance developed by OMB. The regulation tacitly assumes that the process will work, not a valid assumption in all cases. Procedural guidance must be paired with functional guidance in order to have a complete program, and the field needs more specific functional guidance on a number of issues. For example, ATC spent months wrestling with the issue of inspector general inspections of a contract function. There are many legal implications involved in how to hold a contractor responsible for inspection results, and these implications are common to most contract functions. Toxicology testing is another example, involving basic personal liberties issues. These type of questions need to be staffed at the highest levels of command and firm policy developed. Otherwise, each command will develop its own policy and there will be little commonality or standardization among the programs, leaving USAF to deal with divergent policies on convergent issues.

HQ USAF/LE Office of Responsibility

Headquarters USAF/LE should establish an area of primary responsibility for logistics contract matters. This individual or function should act as a clearing house to collect, consolidate and disseminate various contracting products among commands, agencies and other services. Products such as SOWs/PWSs, QASPs, source selection information, and lessons learned could be made immediately

available to other functions so that reinventing the wheel can be stopped. This function would have points of contact and would be familiar with trends, problems and needs in logistics functions under contract. They could develop needed USAF-level policy, and keep USAF and field leadership apprised of upcoming issues affecting contract management. This would also be an avenue to keep USAF leadership from being surprised by major developments of a contract nature. The function could help answer congressional concerns and could work HQ USAF interagency issues rather than commands having to independently work each office. Such a central HQ USAF/LE contract logistics function is sorely needed to provide centralized command and control of a growing contract support effort.

Standardized Education and Start-Up Program

Headquarters USAF or the Air Force Logistics Management Center, using their consolidated resources, should develop an education and start-up program to assist a function in preparing for a conversion. The program could have a basic primer of general contracting guidance as well as provide the critical "contractor's view of the world", information needed by those inexperienced in working with contracts. The program could also use many of the lessons learned from previous conversions and could include sample documents that have worked well under conditions similar to the upcoming conversion. Another part of the program could

be to arrange a briefing and information team from an experienced agency to personally spend several days with the inexperienced group providing real time question/answer sessions. For example, when Strategic Air Command (SAC) initiated a program to convert its T-38 maintenance to a civilian function, SAC representatives were briefed by their ATC counterparts on ATC's conversion program. Because their requirements were similar to ATC's, SAC was able to use much of ATC's SOW, saving many manhours. This type of exchange and education program will lead to much better initial conversion efforts and will significantly reduce field-level frustration and mistakes in such an important area.

After Action Requirements

Headquarters USAF/LE should require detailed after action reports on all conversion programs. After action reports are currently held mostly by the agency that wrote the report, and there is no method to disseminate or otherwise cross-utilize these documents. These reports can only be obtained by knowing that such a report exists and where. This situation is a prime contributor to having to reinvent the wheel. After action and lessons learned reports should be required and collected by HQ USAF and, if not automatically distributed, as least readily available for release. This recommendation is an absolute minimum requirement that should be instituted by HQ USAF/LE.

Command-Level Requirements

Each command with contract logistics functions should institute the recommendations above, consistent with command-unique structure and requirements. Coordinated policy and procedures are essential for an effective contracting program. Functional managers must be involved in every aspect of contracts in their area and provide command-level oversight and guidance. The command functional area is a critical link between USAF policy and field implementation.

The Bottom Line

Although Air Force logistics contracts are a multi-billion dollar effort, there is no centralized function for program management. These recommendations, when implemented, will provide the necessary command and control that is now lacking in Air Force logistics contracting programs.

CHAPTER VIII

CONCLUDING REMARKS

Someone walking into the subject, fresh and inexperienced at hand to hand fighting, probably would assume that developing a formula for doing cost comparisons between a Government agency performing a function in-house versus contracting out for that service would be a relatively simply matter. And, indeed, theoretically it is (43:6).

However, in few other endeavors do theory and reality diverge so quickly and so completely. Converting a large, diverse aircraft maintenance organization to contract is a lengthy, complex, exacting experience in which all participating functions will probably learn more than anyone thought possible. The experience will also open vistas to a much bigger world, one than examines the strong interplay between the public and the private sector in maintaining our national defense. A large conversion program is full of successes and failures, rewards and low blows, personal satisfaction and frustration. However, second chances in contracting are hard to come by and invariably expensive, so the first effort must be successful. Tipping the scales toward success is first and last a function of leadership.

All areas of a conversion effort are directly influenced by the quality of leadership focused on it. If

there is to be one lesson learned in any contracting program, it is that leadership must be strong, knowledgeable and responsive. Leadership must seek out experienced personnel and use their knowledge. The right teams must be assembled; not just who is currently available, but the best expertise and intelligence obtainable. Most importantly, leadership must insure that itself and all program members learn the language of contract management. "Contractese" is indeed its own language and its own way of thought. Fluency in the language is an absolute must before any part of the program is developed or the contract written. It is leadership's job to bring together all of the elements needed to develop a successful program; to insure members are educated in contracting rules and realities; and to develop coherent, integrated plans for execution and support.

Planning must identify what the contract is intended to do; and then contract form, structure and wording must all be in concert with that plan. However, no functional organization should start cold into the contracting process. Developing a contract is not the time to learn by doing, and it is not the time to reinvent the wheel. Mistakes have long term, expensive, mission-threatening consequences. Lessons learned from other programs can help prevent mistakes and such lesson-learned reports should be sought out and carefully studied. But developing a contract is only part of the total conversion equation. When an aircraft maintenance

unit undergoes a cost comparison study, the entire base is affected. This paper only focuses on contract preparation and conversion execution, but there is much more that must be done. Two particularly good lessons-learned reports are included with this paper as attachments. The first is a lessons-learned package from conversion of supply units to contract. Besides examining some of the same lessons learned looked at in this paper, it also discusses considerations in dealing with the MED. The second is an ATC talking paper which discusses total base impact from a conversion program. Both of these papers point out the far-reaching effects of contracting a major base function.

Planning and executing a conversion program takes teamwork. There must be no one-man shows. Virtually every part of headquarters and field units are involved in a program of this magnitude and they must work in total integration. For example, many contracting questions concern legal. Functional concerns must be framed in what is contractually and legally possible. Manpower is present in every part of the program. Budget is an intimate player. Coordinated, integrated plans are critical to conversion effectiveness. As one study pointed out, the "...overriding 'keys to success'...can be summed in six words: community, creativity, continuity, consistency, cooperation, and communications" (12:46).

APPENDIX 1

Base Supply A-76 Cost Studies Lessons Learned



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.
20330-5130

LGS W
LGSP Rock
LGSPS HS

16 JUN 1986 File in PS

REPLY TO
ATTN OF:

LEYS

SUBJECT: Base Supply A-76 Cost Studies Lessons Learned

TO: HQ MAC/LGS HQ SAC/LGS HQ AFSPACECOM/LKS
HQ AFSC/LGS HQ ATC/LGS HQ AFRES/LGS
HQ USAFE/LGS NGB/LGX

1. Attached for your information and use when called upon to perform future cost comparisons is the Base Supply A-76 Cost Studies Final Report Lessons Learned. This report was written by several personnel who were involved with the Kirtland, Vandenberg, Sheppard and Peterson AFB cost studies. It captures their experiences, both good and bad, and should prove to be a valuable tool to avoid some of the pitfalls associated with cost studies.

2. Recommendations contained in the report will be worked with appropriate Air Staff functions. AF/LEYS POC is Lt Col Barnard, AUTOVON 225-2409.

RICHARD LOMBARDI, Col, USAF
Acting
Chief, Supply Policy & Energy Mngt Div
L-1 Maintenance & Supply

1 Atch
Base Supply A-76 Cost Studies
Final Report Lessons Learned

Retain indefinitely
Good reference

**BASE SUPPLY
A-76
COST STUDIES**

**FINAL REPORT
LESSONS LEARNED
19 May 1986**

**Sponsored By:
HQ USAF/LEYS**

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

1. In early 1982, HQ USAF/MPMX and HQ USAF/LEYS agreed to conduct an A-76 cost comparison study at 47 base supply storage and issue functions within MAC, ATC, and SAC. After starting the study and analyzing potential problems, the project was significantly altered in mid 1982. The new approach included four complete supply squadron cost studies. This major change in concept recognized the host of operational problems that could result from trying to operate a squadron with a potentially mixed in-house and contractor work force.
2. This study represented the largest Air Force cost comparison project conducted to date. It encompassed multiple bases and MAJCOMs with 1003 manpower authorizations distributed as follows: Kirtland - 281, Peterson - 273, Sheppard - 206, and Vandenberg - 243. The project included both supply and fuels activities at each base. Because of its size and complexity, a new study concept had to be developed.
3. In Oct 82, AFMEA agreed that the Air Force Maintenance, Supply, and Munitions Management Engineering Team (AFMSMMET--hereafter referred to as consulting FMET) would act as project consultant to HQ USAF/LEYS throughout the cost study. The primary responsibilities assigned to the consulting FMET were: facilitate development of the performance work statement (PWS) and quality assurance surveillance plan (QASP); assist each cost-study base in the development of their most efficient organizations (MEO); provide HQ USAF/LEYS with a location by location minimum manpower estimate based on adjusted Air Force manpower standards; and act as the focal point for the crossfeed of good ideas, problem solutions, productivity enhancements, etc. The new project plan was briefed to key Air Staff offices, HQ MAC/SAC/ATC/SPACECMD, and each cost-study base in Nov/Dec 82.
4. The most important functional decision at the beginning of the project was the commitment to develop competitive in-house bids. These supply managers recognized that a truly competitive process would assure continued quality customer support at the least possible cost. Closely aligned to the competitive commitment was the decision to develop an Air Force core PWS applicable to all Air Force standard base supply system (SBSS) units regardless of their work force composition. This decision required the preparation of a comprehensive and detailed PWS and its coordination at all MAJCOMs. The only exception to the world-wide PWS applicability concept concerned base unique tasks, duties associated with supporting a mobile supply activity, and tasks directly supporting military personnel. A recognized by-product of this decision was direct application of the PWS to the Air Force functional review study of base supply that was scheduled upon completion of the cost studies.
5. A workshop was held 10 Jan-4 Feb 83 where base, MAJCOM, and Air Staff supply experts developed the core PWS. A separate 8-10 Feb 83 workshop finalized all core responsibilities for base fuels. Each cost study location then expanded the PWS to accommodate their base unique requirements and developed detailed organization structures designed around their specific mission, facilities, and working environment. The new organization structures were reviewed and approved by both functional and manpower managers at the respective MAJCOMs and HQ USAF.

6. Once the PWS and organization structures were finalized and approved, a comprehensive "lean-and-mean" manpower determination process began at each cost study base. Concurrent with the detailed base studies, the consulting FMET developed minimum manpower estimating models based on existing Air Force standards. All tasks not associated with a pure civilian work force operation were eliminated, productivity enhancement impacts were computed, existing overhead allowances were replaced by definitive man-hours appropriate to the new organization structures, and new work center equations were developed and applied to the most recent 12 months workload data. These manpower estimates were presented to each base and HQ USAF/LEYS at a 22-25 Aug 83 mid-point workshop where the MEO study progress was analyzed.

7. A separate study was conducted to accurately define the Quality Assurance Surveillance Plan (QASP) and associated Quality Assurance Evaluator (QAE) manpower requirements. The draft QASP was developed by supply experts in conjunction with the initial PWS workshop. Two consulting FMET technicians and QAE representatives from Patrick and Vance AFBs (bases currently under contract) subsequently completed this phase of the study. This study group had two primary responsibilities--assure the final QASP accurately measured supply performance and identify the detailed tasks associated with accomplishing QAE duties. To verify the validity and workability of the QASP, live tests were conducted at Kirtland, Altus, and Malmstrom AFBs in Sep 83. While conducting these and other visits, QAE man-hour task standards were developed. These standards were provided to each study base to help them develop their QAE manpower cost estimates. Again, this effort only addressed core QASP responsibilities--each study base developed their unique QASP tasks and man-hour requirements. The draft core QASP was published in Oct 83 and the final in Aug 84.

8. In late 1984, it became apparent that a single contracting strategy and lock-step approach was essential for the remainder of the project. This would assure a consistent approach was presented to all potential contractors, prevent telegraphing the government costing strategy, and avoid work force transition problems during the normal end-of-year supply accounting conversion period. Additionally, the study team recognized the need for a standardized technical evaluation process to compliment the lock-step approach. Those charged with developing the contracting strategy met in Nov 83 and produced a standard solicitation that was used by all locations. Two technical evaluation working group conferences were held--a concept and problem solving meeting in Oct 83 and a comprehensive team training workshop in Mar 84.

9. Bid opening occurred in Jul 84 at Peterson, Kirtland, and Vandenberg AFBs. Sheppard AFB bid opening was delayed until Dec 84 due to protests lodged during the technical evaluation process. Peterson, Sheppard, and Vandenberg converted to contract, and Kirtland remained in service. Transition from the existing work force to either contractor or in-house civilians occurred in FQ 1/85 at all bases except Sheppard, which converted in FQ 3/85.

10. The following table presents various manpower comparisons at three different stages. While the process identified significant manpower reductions, not all can be attributed to efficiency improvements or "lean-and-mean" belt tightening. Readers are cautioned not to extrapolate these savings to remaining base supply squadrons. The Air Force base supply functional review study now underway is the proper vehicle for determining how cost study efficiencies can and cannot be applied Air Force-wide.

MANPOWER COMPARISONS

<u>Base</u>	<u>Authorized Manpower at Start</u>		<u>Consultant Mid-point Study Estimate</u>		<u>Base Bid</u>	<u>Results</u>
Kirtland	281	- 93 =	188	- 33 =	155	In-house
Peterson	273	- 100 =	173	- 4 =	169	Contract
Sheppard	206	- 53 =	153	-	153	Contract
Vandenberg	<u>243</u>	- 92 =	<u>151</u>	+ 24 =	<u>175</u>	Contract
TOTAL	1003	- 338 =	665	- 13 =	652	

11. A lessons learned project conference was held 11-13 Sep 84 that included all key base, MAJCOM, Air Staff, and AFMEA project participants from supply, contracting, management analysis, personnel, budget, and manpower. An unfortunate staffing problem prevented publication of the lessons learned report following that meeting. Therefore, HQ USAF/LEYS held another lessons learned workshop 27-30 Jan 86 to prepare this report.

12. Clearly, this study demonstrated that a large, highly complex, multi-base/multi-MAJCOM function can be successfully cost studied in well under two years from project start to work force conversion. However, achieving that success required the development of many new study techniques, a very tight time schedule, and most important, a dedicated team effort by several diverse functional disciplines at many levels. To those who said "it couldn't be done" or worked hard at frustrating the effort, this report serves as proof that hard work pays off. Hopefully, the lessons learned and recommendations contained in this report will help others who tackle future large cost studies.

LESSONS LEARNED RECOMMENDATIONS

1. Future A-76 studies of the magnitude of the Kirtland AFB, Vandenberg AFB, Sheppard AFB, and Peterson AFB effort should be formally documented in a Program Management Directive (PMD). The PMD must document actions required of all functional disciplines: civilian personnel, contracting, military personnel, management analysis, as a minimum. (OPR: AF/LEY)

2. Large projects call for full-time, dedicated, base level functional resources consisting of personnel who are highly experienced and have retainability throughout all project phases. (OPR: MAJCOM/LG)

3. The AFR 26-2 reorganization procedures should be revised to facilitate the organizational changes that are a natural outgrowth of the A-76 process. (OPR: AF/PR)

4. A formalized process is required to monitor and maintain the core performance work statement and quality surveillance plan. (OPR: AF/LEY)

5. Air Force publications need to be revised to provide procedures for A-76 studies that result in no contract award; the function is more efficiently operated as a civil service function. AFR 26-1, AFR 25-5, 40-series regulations, and other manpower directives need to address how manpower, organizational, and resource allocations are to occur when the function stays in-house. (OPR: AF/PR, AF/DP)

6. The Inspector General policy for contracted supply functions and those functions remaining in-house needs to be revised. Procedures must address use of the Performance Requirement Summary and Quality Assurance Surveillance Plan as the basis for inspection. In-house operations must be rated by different criteria. A satisfactory for an in-house operation says they are performing a bid which equates to an excellent or outstanding rating when considering they are performing with the most efficient organization and considerably fewer resources. Morale becomes an important factor. (OPR: AF/IG)

7. An Air Staff A-76 steering group should be formed to perform the following functions:

a. Determine initial study approach.

b. Host A-76 announcement conference to establish a plan for each study and decide how that plan will be presented to the MAJCOM staffs and bases (briefings, PMD, etc.).

c. Determine composition of study teams and assign major responsibilities.

d. Select a lead MAJCOM for large studies.

e. Determine the functional manpower evaluation team's role.
(OPR: AF/PR)

8. Resolve the apparent inadequacy of the requirement that in-house winners face recompetition after five years. This OMB A-76 requirement appears to put off the inevitable contracting out of a function once it is initially announced for an A-76 study. With the bidders having access to in-house manpower figures, their goal of under bidding the government becomes relatively simple. (OPR: AF/PR)

INTRODUCTION

INTRODUCTION

The size, complexity, and innovative study procedures of this project involved many people in several different functions over a two-year period. While that may appear long to some, in retrospect the only area that might have yielded reduced time concerned development of the game plan. By capitalizing on the lessons learned in this report, future studies could save some of the early planning efforts required for this "first-of-its-kind" study. The following task and milestone table highlights the key tasks accomplished during the supply study. The OPRs for each task are listed so readers have a point of contact if more details are needed. The consulting FMET for this project was the Air Force Maintenance, Supply, and Munitions MET. This unit experienced several organizational changes throughout this study and was inactivated 1 Oct 85. Therefore, the term consulting FMET is used hereafter to identify the functional manpower activity.

<u>EVENT</u>	<u>OPR</u>	<u>DATE</u>
a. Cost Study Announced	HQ USAF/PRMX	Feb 82
b. Functional Redirection (from 47 separate storage and issue activities to 4 complete supply squadrons)	HQ USAF/LEYS	Sep 82
c. FMET Study Plan Briefed/ Approved by AFMEA and Air Staff (HQ USAF/PRM/LEYS)	Consulting FMET	Oct/Nov 82
d. AFSCAG Meeting, Dayton OH - Meet Players - Outline Project Plan - Confront Issues	HQ USAF/RDCL	2-5 Nov 82
e. Issue Personnel Planning Guidance	HQ USAF/LEYS	17 Nov 82
f. Visit Study MAJCOMs and Bases - Present Project Plan - Functional Familiarization - Begin Building Study Team	HQ USAF/LEYS and Consulting FMET	7-17 Dec 82
g. Visit Contracted Bases - Vance and Patrick - Gather Lessons Learned - Functional Familiarization	HQ USAF/LEYS and Consulting FMET	7-17 Dec 82
h. Forward PWS Workshop Information to Attendees - Project Familiarization - Draft Tree Diagrams - Workshop Process Outline	Consulting FMET	10 Dec 82

- | | | | |
|----|---|-------------------------------------|-----------------|
| i. | PWS Workshop, San Antonio TX | HQ USAF/LEYS
and Consulting FMET | 10 Jan-4 Feb 83 |
| j. | Fuels PWS Workshop, Randolph
AFB TX | HQ USAF/LEYS
and Consulting FMET | 8-10 Feb 83 |
| k. | Issue Reorganization Guidance
- How to Document New Structure
- Outlined Review/Approval Process | HQ USAF/LEYS | 25 Mar 83 |
| l. | Sign Project Memo of Under-
standing
- PWS Workshop Results
- Remaining Study Plan Outline
- Follow-on Functional Review Plan | HQ USAF/LEYS
and Consulting FMET | 7 Apr 83 |
| m. | Revisit MAJCOMs and Study
Bases
- Clear-up Misunderstandings
- Review Project Progress | HQ USAF/LEYS
and Consulting FMET | 18-24 Apr 83 |
| n. | On-Scene Studies
- Document New Organizations
- Build Minimum Manpower
Estimating Models
- Collect Workload Data
- Review Base Unique Requirements
- Analyze Productivity Enhancements | Consulting FMET | 19 Jun-1 Jul 83 |
| o. | Publish Draft Core PWS | Consulting FMET | 1 Jul 83 |
| p. | Mid-point Study Workshop,
Peterson AFB CO
- Supply, Contracting, and Manpower
- Present Consulting FMET Study Results
- Address Study Problems
- Finalize QASP
- Formulate Lock Step Approach | Consulting FMET | 21-26 Aug 83 |
| q. | Live Test QASP
- Plan Developed at Kirtland AFB NM
- Tests at Altus AFB OK and
Malmstrom AFB MT | Consulting FMET | 11-24 Sep 83 |
| r. | Issue Technical Evaluation
Concept Guidance | HQ USAF/LEYS | 9 Sep 83 |
| s. | Technical Evaluation Criteria
Meeting, Scott AFB IL
- Formulate Contractor Evaluation Process
- Identify Training Workshop Need
- Develop Standard Evaluation Process | HQ MAC/LGS | 11-13 Oct 83 |

- | | | | |
|----|---|----------------------|--------------|
| t. | Contracting Steering Group
Workshop, Peterson AFB CO
- Formulate Standard Solicitation
- Develop Common Contract Review
Strategy | HQ SPACECMD/LGS | 15-17 Nov 83 |
| u. | Cost Procedures Workshop,
Randolph AFB TX
- Finalize Costing Procedures
- Review Final Project Milestones | AFMEA/MERC | 23-27 Feb 84 |
| v. | Technical Evaluation Team
Training, Peterson AFB CO
- MAJCOM Team Interface
- Standard Review Process Defined
- Evaluate Test Cases
- Review Minimum Manpower
Estimate Models | HQ SPACECMD/
LGSP | 12-16 Mar 84 |
| w. | Bid Opening
- Kirtland, Vandenberg, Peterson | Cost Study Bases | Jul 84 |
| x. | Lessons Learned Workshop,
Kirtland AFB NM
- Supply, Contracting, Personnel,
Management Analysis, Manpower
- Document Lessons Learned | Consulting FMET | 11-13 Sep 84 |
| y. | Bid Opening, Sheppard AFB TX | HQ ATC | Dec 84 |
| z. | Follow-on Lessons Learned
Workshop, Kirtland AFB NM
- Review Post Award Lessons Learned
- Prepare Lessons Learned Report | HQ USAF/LEYS | 27-30 Jan 86 |

LESSONS LEARNED - PRE-AWARD PHASE

- INTRODUCTION**
- NEW VS TRADITIONAL COST STUDY APPROACH**
- PWS DEVELOPMENT**
- QASP DEVELOPMENT**
- LOCK-STEP APPROACH**
- CONTRACT TECHNICAL EVALUATION**
- ORGANIZATIONAL CHANGES**
- MANPOWER STANDARDS APPLICATION
DISCIPLINE**
- WORKLOAD DATA ANALYSIS**
- PERSONNEL PLANNING**

LESSONS LEARNED - PRE-AWARD PERIOD

INTRODUCTION

(This portion of the report addresses those lessons learned prior to bid opening. These were the issues discussed at the 11-13 Sep 84 lessons learned workshop. It must be emphasized that the following comments and recommendations represent the unanimous opinion of all attending the conference.

NEW VS TRADITIONAL STUDY APPROACH

1. Normally, Air Force contract cost studies are conducted under a decentralized base-level project management concept. While the MAJCOMs retain scheduling and study oversight responsibility, the actual "doing" of the studies is strictly a base effort. If the same function is studied at multiple bases across several MAJCOMs, a series of highly individualistic base studies usually result because no mechanism previously existed to bring those projects together. Even within a single MAJCOM, there is little commonality in study approach, documentation, and methodology among studies of the same function. Any common approach to the costing process, development of the most efficient organization (MEO), or contracting strategy has been primarily the result of base level individual effort rather than a centralized process. Past Air Staff involvement was primarily limited to broad program management, policy development, and identification of cost study candidates--they had virtually no direct involvement in the base level study process.
2. This is not intended as criticism of past practices; on the contrary, that process worked well for the smaller projects that had characterized most previous A-76 cost studies. Most of these previous cost studies were aimed at base facility maintenance activities (e.g., family housing maintenance, protective coating, etc.) or encompassed one-of-a-kind operations. Additionally, the demand for several small studies frequently prevented concurrent scheduling of command functional studies due to the many other competing demands of the functional managers or the command management engineering teams (CMET). Finally, since many of these studies were small, they were ideally suited for allocation to small business set aside programs. Rarely did a potential small business contractor bid at more than one location for the same function.
3. There were five major reasons why a new, more centralized, and tightly controlled study process was needed for the base supply study.
 - a. **Size.** The four base supply cost studies comprised the largest individual A-76 project to date. Each of the four studies averaged over 250 manpower spaces each. Using past study practices would have required at least three years per study for such large activities. Also, the early completion of one project would probably signal bid information that could be used against other studies that had differing schedules.
 - b. **Complexity.** Each study encompassed a full supply squadron that included such diverse activities as centralized computer operations, dispersed warehousing and distribution, complex inventory management, large refueling operations, and a multitude of base unique tasks. Not only was the function complex, so was the costing and contracting processes.
 - c. **Mission Impact.** Each study location had diverse and high priority customers. One base directly supported more than 100 aircraft, another supported a MAJCOM headquarters, one base had several geographically dispersed sites, one directly supported missile operations, and classified activities were common at several of the bases. The requirement to maintain continued responsive mission support had to be the foundation of each study.
 - d. **Big Business Competition.** The large size and dollar cost of potential contractor operations meant large national businesses would be likely candidates. The high degree of commonality (core activity) among the four bases signaled the

possibility that many of the potential contractors might bid at several or all four locations. This necessitated the development of a common in-house costing and contracting approach to assure a consistent baseline was presented to potential contractors. This was the single most compelling reason for developing a "corporate" Air Force strategy, and it mandated the standardized team study approach.

e. **Functional Review Precedent.** The supply and manpower communities agreed at the beginning that only one Air Force supply system, the Standard Base Supply System (SBSS), was acceptable regardless of the work force (military, civil service, or contractor). The A-76 process had proven to be an excellent process for identifying new and more effective work processes and procedures. Therefore, the cost studies were selected as the first step in accomplishing future in-house base supply functional review studies. In short, good productivity enhancements identified during the cost study process would be examined for application across the Air Force SBSS.

4. The New Approach.

a. The study team approach became the foundation of the project. This team approach extended both vertically (base-level, MAJCOM, and Air Staff) and horizontally (supply, manpower, contracting, and between bases and MAJCOMs, etc.) among all team members. From the beginning, the Air Staff functional manager was the visible and recognized study team leader. A mandatory monthly information crossfeed system was established whereby inputs were forwarded from all levels to the consulting FMET who then consolidated and disseminated the information to all team members.

b. A "lock-step" strategy was developed whereby common project milestones were developed and adhered to by all. Key to this process was the collective team development of those milestones. The end result was a mutually agreed schedule that incorporated the needs of all team members. By carefully tracking the project status, problems were identified early, rapid solutions were developed, and those solutions disseminated to all. This quick reaction to problems was the key to on-time project completion. In retrospect, it is significant to note that, from beginning to end (PWS workshop to bid opening), the project was completed in 19 months -- less time than that frequently used on much smaller and less complex studies.

5. Key to New Process.

a. Functional Commitment to Competitiveness.

(1) From the start, the supply community committed themselves to building strong, competitive bids. This critically important decision had to be made at the onset--failure to do so would have stifled the kind of innovative thinking needed to be competitive with industry. Once it was determined that Air Force SBSS system integrity could be maintained regardless of the work force, this commitment to competition spread from the Air Staff, to the MAJCOMs, and finally to the bases. Without this top to bottom functional commitment, an effective team effort would not have been possible.

(2) This competitive commitment was never allowed to override the equally important issue of preserving the SBSS and continuing to provide quality mission support. Throughout the project, senior supply managers were constantly

avert to any proposed changes or productivity enhancements that did not support these two critical measures of merit.

(3) One important by-product of this early competitive commitment was the positive reaction from those directly impacted by the cost studies--the civilian and military employees in the four squadrons under study. Once they saw that top to bottom enthusiasm for development of truly competitive bids, they began identifying suggested improvements. This resulted in the team approach extending from base workers all the way to and including the senior Air Staff supply manager.

b. Positive Marketing Effort.

(1) To help build the commitment and team approach, an aggressive project marketing program was required. Even on a relatively small A-76 cost study, many misunderstandings must be overcome. Additionally, there are many people who resist any change in operating procedures. A large cost study compounds those problems and requires an aggressive program to get the word to all study participants.

(2) After the study plan was developed and approved by key Air Staff functional, manpower, and contracting managers, an in-depth briefing was presented to MAJCOM and base officials in Dec 82. While this was a time consuming step, (it took approximately one month for both the Air Staff functional manager and consulting FMET Commander), it was absolutely critical to successful project completion. Not only did it assure all got the same word, it provided the means for gathering many good ideas on study methodology and productivity enhancements from all levels. Such key project enhancements as the lock step approach, centralized technical evaluation training, and QASP field testing, were identified during these early "spread-the-word" presentations.

(3) Unfortunately, the project plan differed so significantly from previous study procedures that many resisted the concept and said "it couldn't be done." This required a second round of Apr 83 briefings to restate much of what had been presented in the Nov 82 briefings. Since there is now a successful precedent, future large studies may not need two major presentations.

c. FMET Consultant Role.

(1) This centralized project could not have been accomplished to the depth and quality, and within the tight milestones, without full-time FMET consultant assistance. None of the other team players could devote the resources that were available to the consulting FMET. Some of the responsibilities accomplished by the consulting FMET were: overall project planning, centralized crossfeed of ideas, conference secretariat, development of adjusted Air Force manpower standards based on an all civilian work force, QASP testing, and rapid response to problems. Another area of FMET assistance was the preparation and maintenance of draft and final PWS, QASP, and other study products. Finally, the FMET offered a detached perspective that was beneficial to all levels involved in the project.

(2) Some questioned whether a FMET should be involved beyond the PWS and QASP development process. It was the unanimous opinion of all those directly involved in the project that the decision should be determined on a case by case basis in the early planning stages of large A-76 studies. The logical follow-on to

functional review studies makes the FMET a natural candidate for such consultant activities. To help resolve the issue, it is suggested that one not ask whether the FMET is the right choice, but rather who can effectively accomplish such a critical consultant role?

d. **Functional QAE Involvement.** From the very beginning, the project team decided to utilize QAE expertise in developing the PWS, QASP, and technical evaluation training program. QAEs from Vance and Patrick AFBs (already contracted bases) provided invaluable experience and technical expertise. They assured the final products were void of problems they had experienced.

6. How to Improve the Process.

a. Because such a large team effort had never been utilized in the past, the project game plan was constantly under development. Looking back, all agreed it worked well for the supply project; however, it could have been improved had a written plan been developed at the beginning. Such a plan would identify milestones, establish program review points, outline duties and responsibilities of all team members, and firmly establish information crosstell procedures. One option for similar large future studies would be the utilization of a formal program management directive (PMD).

b. In retrospect, several other functional disciplines besides supply and manpower should have been brought into the project at the beginning, such as contracting, civilian personnel, military personnel, management analysis, etc. Their early involvement would have assured the milestones and game plan accurately reflected the needs of all players and made sure sufficient time was allowed to properly plan for unforeseen problems. While the study was completed on time, it required considerable periods of intense work that might have been less hectic had all players been involved in the early planning process.

c. One area all agreed is essential for such a large project is the full-time dedication of base level functional resources to the project. There were simply too many specialized areas to be handled on a part time basis. Additionally, those selected for the project must not only be highly experienced, they must also have retainability to assure continuity throughout all project phases.

PWS DEVELOPMENT

1. Policy Considerations.

a. At the beginning of this study, the supply community made an important decision that impacted the study process and laid the foundation for future Air Force base supply functional review studies. That decision was to develop one core PWS that outlined those duties and responsibilities common to all world-wide base level SBSS organizations. The cost study bases would then add their base unique requirements to the core PWS. This policy decision stemmed from the logic that a standard Air Force system (core) was essential to assure compatibility with other associated logistics and support systems, (such as GSA, AFLC depots, accounting and finance, contracting, etc.) that it interfaces with.

b. Also inherent in this policy decision was recognition that the core PWS would serve as the baseline for future functional review studies. Therefore, the PWS developed in this project would have impact far beyond the four cost study bases--it would be the foundation for all future base supply manpower standard development efforts. Likewise, any enhancements developed on the core activities would be analyzed for possible world-wide application. Accordingly, the PWS workshop and subsequent review steps were carefully designed to assure this world-wide document truly reflected what must be accomplished by a base level SBSS unit.

2. Assumptions.

a. A few early assumptions had a major impact on the PWS development process. It became apparent in late 1982 that AFSCAG procedures were not practical for a project the size, complexity, and potential applicability. Instead, a 30-day workshop, solely dedicated to developing the base supply PWS, was conducted using newly developed Air Force functional review workshop techniques. A separate base fuels PWS workshop was held because insufficient time was available at the supply workshop for the specialized function.

b. The basic policies and procedures outlined in AFR 67-1 were determined to be mandatory for all supply activities whether operated by in-house or contractor personnel. This decision helped overcome the enormity of the task, and recognized that, on balance, the SBSS was operating effectively. Few procedural enhancements were anticipated considering the size of the system and its heavy reliance on standard computer systems. Also impacting this assumption was an earlier Air Force decision to convert all base supply accounts from the UNIVAC 1050 computer system to the new Phase IV Sperry system. Because the functional community anticipated conversion problems, they decided not to make major changes in how the supply system operated. Such changes would only compound the software development and system documentation problems. This decision certainly proved sound in light of the many problems experienced with bedding down the Phase IV system.

c. Finally, the Air Staff functional manager agreed to permit development of unique organization structures for each cost study base. This was where most efficiencies were anticipated. They also recognized that potential contractors would have considerable organizational latitude; therefore, holding the cost study bases to a less than optimum structure would likely eliminate any hope of them developing competitive in-house bids.

3. Methodology.

a. At the same time this project was being designed, the Air Force Management Engineering Program (MEP) was undergoing a major change in study methodology. The new MEP process was called functional review. Many of the initial functional review study steps stemmed from experience gained in the A-76 cost study process. The foundation of a functional review study is a workshop where functional experts examine current practices, identify potential efficiencies, and develop a new approach to accomplishing the job. That is the same approach ideally used to develop a PWS. AFMEA decided, with HQ USAF/LEYS concurrence, to test the new functional review workshop techniques during development of the cost study core PWS. This was a logical approach since the core PWS developed at the workshop would apply to all Air Force base supply activities, and it would be the foundation for the follow-on functional review study.

b. The workshop began on 10 Jan 83 at Randolph AFB TX. Due to cramped on-base office space, the inability to use those facilities after hours (they were also used as evening classrooms), and the need to remove all materials each evening, the workshop was moved to the hotel conference room in the same building where all out-of-town conference attendees were staying. Clearly, this location change permitted project completion by 4 Feb 83, and significantly improved the work effectiveness and efficiency of the conferees.

c. Workshop attendees included functional representatives from each cost study base, their respective MAJCOM, and the HQ USAF/LEYS project officer. Three consulting FMET personnel also attended to act as facilitator and recorders. Additionally, one AFMEA representative attended to observe the new functional review workshop process. Periodically, other MAJCOM and base representatives attended for short periods to observe the process--many of these were early project skeptics who soon realized the functional experts were accomplishing what they said they would.

d. Early in the workshop it became apparent that the consulting FMET facilitator needed considerable information to understand the technical issues being discussed--a logical expectation due to not being a supply technician. While this may be acceptable and somewhat beneficial in other workshops, the time involved in explaining details to the facilitator was going to cause one of two unacceptable results--extending the workshop beyond 30 days or reducing the depth of the PWS coverage. The solution was to utilize the Air Staff functional manager as the facilitator.

e. Because the project was so large, the base fuels portion of base supply was covered at a separate workshop. A gathering of base, MAJCOM, and Air Staff fuels experts met 8-10 Feb 83, at Randolph AFB TX. The Air Staff functional project officer and two of the three consulting FMET technicians also attended. This one-week workshop finalized a draft PWS that had been developed during a previous Aug 82 workshop. The Feb 83 workshop updated the earlier product into a format compatible with the base supply PWS and resolved several detailed functional issues.

f. The base supply and base fuels products were consolidated into a single draft PWS by the consulting FMET and forwarded to HQ USAF/LEYS for review. Based on the policy that the PWS was applicable to all Air Force base supply

activities, HQ USAF/LEYS forwarded the draft PWS to all MAJCOMs for review and comment. While this extensive Air Force-wide review added some time to the study process, it was essential to assure nothing was proposed in the PWS that would create nonstandard supply operations. The draft core PWS was also reviewed by other Air Staff agencies, such as manpower, contracting, legal, and management analysis. The last MAJCOM comments arrived in May '83, and the Air Staff completed their review in Jun 83. The consulting FMET was provided all required changes, and they prepared a final core PWS which was distributed to each study base, MAJCOM, and HQ USAF/LEYS on 1 Jul 83. Key to this rapid document turn around was use of the latest word processing equipment. Not only were the bases provided hard copies of the final document, they were also provided a word processing disk so their base tailored requirements could be added without the need for a complete document retype.

4. Key to Success.

a. Assembling the right team of experts at the PWS workshop is the first step in producing a quality product. In addition to base, MAJCOM, and Air Staff experts, a QAE representative from Patrick AFB FL was also in attendance. The QAE experience in working with contracted supply activities, both good and bad, was invaluable in producing a PWS that avoided past problems and captured good ideas. The attendance of consulting FMET personnel trained in the PWS development process also played an important role in the process.

b. Several other considerations are equally important in assuring a quality PWS is developed that will stand the test of operating effectiveness. First, the functional attendees were experts in their field. Base supply has several specialized disciplines, and experts from each of these areas were in attendance. While each area cannot be represented from each base due to dollar and conference size limitations, at least one from each discipline was in attendance during the entire conference.

c. Next, base and MAJCOM representatives must have the authority to speak for their respective organizations. While a final coordination process is necessary, it should be primarily one that results in only minor proposed changes. That only minor changes resulted during the MAJCOM coordination process speaks well for the technical expertise and authority possessed by the functional attendees.

d. The people who develop the PWS must continue as a tight knit team throughout the remaining project steps. Shifting players loses all continuity, lengthens the process, and reduces the pride of authorship that is an important team building characteristic.

e. The size of the study group must be restricted. No hard and fast criteria is available on this facet of the project. The PWS conference had 18 primary attendees and 13 of those continued as team members throughout the project. After the PWS was completed, the original 13 members were supplemented by approximately 20 additional people at varying points during the remainder of the study. They added specialized expertise to the team (contracting, management analysis, etc.). Clearly, less people would not have worked and any more would probably have made the team too large.

f. Another key factor that helped the PWS development process was considerable advance preparation before the workshop. The Air Staff and

consulting FMET project officers briefed each location on the workshop objectives and processes, all attendees were provided early task analysis information (tree diagrams developed by the consulting FMET from existing work center descriptions), and quality facilities were secured to assure maximum conferee productivity. Another crucial planning step was the building of day-by-day milestone and objective charts. The functional facilitator and consulting FMET representative reviewed these charts each evening to determine daily project progress. When progress was not up to expectations, immediate corrective action was initiated the next day in terms of extending into the evening and/or quickening the pace. For example, at mid point in the second week the decision was made to work through the weekend to return the workshop to the pre-planned schedule. Rigid adherence to the workshop completion date was essential because many of the functional attendees had critical base, MAJCOM, or Air Staff responsibilities that prevented further absence from their office.

g. To help workshop attendees prepare for the meeting and to assure maximum productivity during the 30-day conference, each MAJCOM was tasked to provide tree diagrams of the Base Supply branches with one branch per MAJCOM. Kirtland was tasked with developing diagrams for Material Management; however, early in their efforts they determined the diagraming process was not the best approach. Instead, they utilized the available Air Force manpower standards to develop an analysis of all taskings. Convinced that this was the best approach, the Kirtland staff conducted similar analyses for the remaining branches. These products became the primary analysis baselines at the workshop.

h. The art of facilitating is an important ingredient in assuring a successful workshop. Switching from the consulting FMET technician to the Air Staff functional manager is an example of how the process must be constantly evaluated and adjustments made on the spot. In short, there are no hard and fast rules that fit all circumstances; however, a well qualified and informed group will assure the right skills and talents are applied at the right time.

i. The larger and more complex the function, the greater is the administrative burden associated with producing and maintaining the PWS. The consulting FMET utilized the most advanced word processing equipment from the start. This significantly reduced the administrative burden for themselves and others. Study bases were provided both hard copy and memory disk products to eliminate complete document retype. Early planning of this rather mundane portion of the study was a major factor in on-time completion of the project.

j. Thorough review of the PWS is essential. It is easy to miss things or fail to cover some areas in sufficient depth during a time sensitive and stressful PWS workshop. During the review and coordination process, others away from the developmental effort should carefully review the document to be sure they fully understand it and that it is all inclusive. Without this step, the test of product quality must await actual in-house or contractor operation--certainly not the time to discover problems.

k. Finally, taking care of those who work on the project will assure a positive attitude continues throughout the study. Following the PWS workshop, the Air Staff functional manager prepared achievement awards for the military participants and letters of commendation for the civilian members. This expression of appreciation by the senior functional manager certainly was a most positive

motivating force for the recipients, and demonstrated the significance of their contributions.

5. How to Improve the Process.

a. Contracting expertise was not available at the PWS workshop. Had they attended, several problems identified during the solicitation development phase could have been avoided. Additionally, the need for the lock-step approach would have surfaced sooner which would have permitted more timely development of that process.

b. One thing that could have reduced the time spent getting started at the PWS workshop would have been a two or three day pre-workshop meeting where everyone could have reviewed the process, developed a plan of action, and been assigned specific pre-workshop preparation tasks. The first four days of the actual workshop required considerable adjusting that would have been handled at a pre-workshop meeting. Use of such a conference could have reduced the length of the actual workshop or permitted a more in-depth review of some issues. Naturally, TDY costs may be a problem, but the size and potential impact of the project must be weighed before making the decision. In retrospect, some of the key project players agreed such a pre-meeting would have helped this study.

QUALITY ASSURANCE SURVEILLANCE PLAN (QASP) DEVELOPMENT

1. The QASP is a critical evaluation tool to assess contractor performance. The importance of the QASP cannot be overemphasized--to a large degree, it plays a significant role in determining payment to the contractor. Said another way, it is a tool that may signal the need to withhold some contractor payments. Problems with the QASP become evident early in the post award environment; therefore, extra effort up front is needed to prevent later frustrations.
2. The QASP is derived from the performance requirements summary (PRS) which flows from the PWS. Measurable items in the PWS are compiled into the PRS. Those elements of the PRS that can be assigned an acceptable quality level build the QASP.
3. The base supply study QASP was developed at the conclusion of the PWS workshop. The functional experts who developed the PWS were well qualified to construct the draft QASP. Like the PWS, the draft core QASP was then reviewed by functional personnel at MAJCOM and base level to assure its technical accuracy and practicality. The core QASP was finalized during the 21-26 Aug 83 mid point study conference. Live testing of the QASP was accomplished at Kirtland, Altus, and Malmstrom AFBs. Kirtland was selected as representative of the cost study bases and the other two locations were random selections of non-study bases. While conducting these tests, the consulting FMET also developed detailed quality assurance evaluator (QAE) tasks which were then used to compute task man-hour standards. These task man-hour standards were provided to the study bases to help in the development of their in-house QAE cost estimates. The final core QASP was then modified at base level to incorporate their unique requirements.
4. Key to developing a successful QASP is teamwork by functional, manpower, and contracting experts. Important members of the QASP development team were selected QAEs from Patrick and Vance AFBs--individuals managing existing supply contract operations. They provided valuable real world experience with managing all forms of the quality assurance process. All team members agree that the ease with which the supply QASP was introduced at the three contracted bases was, to a large degree, the result of their assistance.
5. Several other important QASP lessons were learned since converting to contractor operations at three of the bases:
 - a. The need for early QAE training and their being in place before contractor start up. When a large activity like supply converts to a contractor operation, a trained QAE staff can serve as an effective transition activity to enhance communications and smooth the implementation process. Early QAE training is critical to assure timely implementation of the QASP. Initial training should be provided by the ATC QAE training staff either on site or at the formal Lowry school. Naturally, detailed planning for such training must be included in the overall project milestones.
 - b. QASP tasks are labor intensive. Much of the work and data needed to accomplish QASP measurements must be computed and collected manually. Many of the data elements could be gathered by special data automation retrievals. These programs need to be developed, tested, and available upon contractor start up to assure effective utilization of the QAE work force.

c. The QASP is not absolute. The QASP can be revised or updated to accommodate needed change. Tasks change, as well as the methods of inspection. Experience demonstrates that QAEs and contractors believe the QASP method of inspection is the only acceptable method; therefore, it becomes a mindset. AFR 400-28 provides other acceptable inspection methods to verify contractor performance, such as checklists and products obtained from available management information systems. These less manpower intensive methods of inspection can be utilized when satisfactory QASP performance has been documented for a four-month consecutive period. However, if these less intense quality assurance methods identify unsatisfactory contractor performance, the QASP method must be utilized for the next lot size (month). The purpose of utilizing other methods of inspection is to provide QAE flexibility.

"LOCK-STEP " APPROACH

1. Background.

a. As early as the Nov 82 AFSCAG meeting, a need was recognized for an Air Force corporate study strategy. In essence, the Air Force would be competing with major corporate firms who could be expected to assemble teams of A-76 professionals to bid one or more of the four base supply functions. To be truly competitive, the Air Force had to establish a common framework within which its own teams of experts would operate.

b. The Air Force corporate strategy was aimed at adopting a common philosophy and project plan to be followed at all four cost study bases. While it was manifested in a number of ways, two stand out.

(1) First, a core PWS was developed to ensure that the principal service to be studied, the continued operation of four bases under the SBSS, was described in common terms at all locations. This insured the same work was competitively bid at all locations. Allowing the bases to tailor the core PWS to accommodate unique local requirements and workload resulted in the only fundamental differences among the four sites. As a result, all parties were competing to perform a consistent, though not identical, work requirement. Competition was then reduced to who could configure the best organization structure and manning proposal to accomplish this consistent work requirement.

(2) Second, the Air Force developed common major milestones which were designed to pace all four studies. These included:

- (a) Acquisition Package to Contracting, 1 Nov 83
- (b) Issue Request for Proposal (RFP), 5 Dec 83
- (c) Receive RFP/AF Form 346, 30 Mar 84
- (d) Bid Opening, 1 Jul 84
- (e) Contract Award (if contracted), 1 Aug 84
- (f) Contract Start Date (if contracted), 1 Nov 84

(3) The overriding purpose of these critical milestones was to assure each study would proceed on schedule and that all required intervening A-76 steps would be completed in a timely fashion. From the start, there was a concerted effort not to prolong the inevitable, i.e., conversion of the work force. Functional managers at all levels agreed that a long transition period would become debilitating in terms of personnel, morale, and job performance. Furthermore, common milestones would preclude actions and events at one base from adversely affecting the outcome at one or more of the other bases. There was a perception that industry could react more quickly to such disclosures while the government could not. In essence, the study team did not wish to compromise the government corporate bid and thereby destroy competitiveness.

2. Execution of the Approach.

a. Generally, all participants adhered to the lock-step approach. However, at the 21-26 Aug 83 mid-point conference, it became apparent that the contracting community would drive the remaining milestones. Efforts to compress the milestones, while acceptable to the functional community, could not be accommodated by the contracting participants.

b. Mandatory contracting time lines are driven by the negotiated bid process, congressional notification, and other requirements. These requirements were apparently interpreted differently by the four contracting offices. As a result, the lock-step approach began to breakdown at the bid opening point--Vandenberg opened two weeks ahead of Peterson, and Kirtland delayed its opening a few days to secure low bidder signature on the tentative contract award. Sheppard bid opening was delayed because of a protest lodged during the technical evaluation process.

c. The contracting community must be involved in an A-76 study from the very beginning. Only by their involvement in the early development of milestones will the lock-step approach work. Even then, interpretation of Federal Acquisition Regulations (FAR) and AFR 26-1, as related to negotiated procurement procedures, may jeopardize milestone completion. AFR 26-1, Chapter 5, describes an orderly process which includes a pre-award survey prior to bid opening. AFR 26-1 does not require some actions stipulated in the FAR, such as EEO compliance, MAJCOM review and approval of the contract, and signing of the contract by the Air Force representative and the responsive low offeror (with a statement indicating the award is subject to successful bid opening). Adherence to the lock-step milestones was not totally achieved because some commands followed the FAR while others followed AFR 26-1. This caused the three week difference in actual bid opening dates among bases. Had a greater gap developed, some of the potential contractors could have changed their proposals based on information gained at earlier bid openings. Fortunately, the impact on the post award environment was minimal; however, the frustration level and potential for more serious problems could have been curtailed had contracting been actively involved from the beginning as team members committed to the lock-step milestones.

d. The Cost and Management Analysis Office must also be involved early in the study to effectively conduct their independent review required by the A-76 process. In large studies, the complexity of keeping up with the project is multiplied by daily supplemental guidance and procedures, and interpretations of both. Their late arrival in the process complicates their review and, in reality, costs many people additional time trying to explain past computational procedures and the multitude of decisions that occur during a lengthy study. Excluding them from early planning efforts jeopardizes completion of the critical end-of-study "lock-step" milestones. While the integrity of the independent review process cannot be compromised, the agency responsible for the review must be involved in the A-76 study process.

e. Quality of the independent review is also an area that needs further analysis. The Air Force assigns independent review responsibility to an activity that may not have the broad experience base and training necessary to conduct the review for such large studies. Other DOD agencies utilize their auditors. The Air Force might consider using the Audit Agency for some independent reviews. However, their time requirements must be compatible with overall study time planning.

CONTRACT TECHNICAL EVALUATION

1. Technical evaluation of all contractor proposals is a critical element of any A-76 cost comparison study. The larger and more complex the study, the more the need for a highly structured evaluation process. The diversity of base supply functional requirements underscores this need. Supply technical requirements cover a wide range of tasks, from quality control of aviation fuels to storage of high cost material, and each is critical to successful mission performance. Early in the supply study process, it became apparent that the invitation to bid had to clearly tell potential offerors that they needed a thorough understanding of the PWS. The detailed planning for the technical evaluation process began at a HQ MAC/LGS sponsored conference during 11-13 Oct 83.

2. Each MAJCOM in this study organized its own team to perform the technical evaluation process. During the planning stages of the evaluation process, consideration was given to the creation of one single technical evaluation team to review all proposals. That idea was discarded for several reasons: large geographical dispersion of the four cost study bases would have created considerable logistical problems, team size would have been unmanageable, time and high cost associated with one team becoming thoroughly familiar with all four locations would have been prohibitive, and contracting elements assigned responsibility for each location operated with a high degree of independence. The only time such a single "tiger team" approach might work is if all the studies are in the same MAJCOM and other essential project standardization activities have occurred up to the point of technical evaluation.

3. Functional personnel normally do not possess the specialized expertise necessary to conduct a thorough contract technical evaluation. Therefore, an in-depth indoctrination was needed for all members on the legal, administrative, contracting, and manpower procedures involved in the technical evaluation process. The training seminar developed and presented by HQ SPACECOM/LGS provided the degree of realism necessary to quickly reduce the learning curve. Sample technical proposals, containing flaws commonly found in actual proposals, provided realistic experience in a training environment. Additional specific training by contracting, legal, and manpower specialists helped provide a common working knowledge of the process. The consulting FMET provided bottom line manpower estimates based on the new organization structures and modifications to existing supply manpower standards. The technical evaluation teams used these estimates as benchmarks when developing their own minimum manpower models for the base they were responsible for evaluating.

4. Special attention was given to the critical area of team composition. First and foremost, personnel selected to be technical evaluation team members had to possess the highest degree of integrity. Team chiefs selected personnel from their MAJCOM staffs rather than augmenting their teams with base personnel. This assured tight team control and compliance with all procedures. Each MAJCOM assigned their team members via special orders and/or letters of appointment. All personnel understood from the outset that they were dedicated full-time to their team and would remain until completion of the evaluations. Personnel contemplating retirement, separation, or transfer were not eligible for assignment to the teams. Each team member was assigned a specific PWS area of responsibility, and all team members evaluated the general portions of the technical proposals.

ORGANIZATION CHANGES

1. Background.

a. If there was one aspect of the study that afforded the most opportunity for reduced manpower costs, it was organizational change. This same issue was also one of the greatest areas of functional community concern in the early study stages. Initially, the functional managers held that the standard supply squadron structures outlined in AFR 26-1 and 67-1 resulted from considerable study and were essential for the maintenance of a standardized Air Force supply process. After determining that supply system integrity and quality customer support would not be degraded by prudent structural changes at the four study bases, HQ USAF/LEYS agreed to allow organizational flexibility. Key to this decision was the fact that, by definition, the study locations no longer possessed a wartime deployment mission.

b. The only stipulation to organizational flexibility was that each proposed structure had to be reviewed and approved at both the MAJCOM and Air Staff. This review process was needed to assure important internal supply system checks and balances and overall mission support was not degraded in the interest of reduced operating costs. These same concerns were also included in the technical evaluations of potential contractor proposals. This assured both work forces were abiding by a consistent Air Force organization philosophy.

c. The information required for the Air Staff review included the following: a detailed organization chart, broad work center descriptions for each block on the chart, and the statement that the new structures would not reduce mission effectiveness. The proposed structures were reviewed by both the Air Staff functional and manpower organization communities. Approval was in the form of a joint HQ USAF/LEYS/PRMO letter. Naturally, throughout this process, critical base information was guarded under the provisions of AFR 30-30 at all levels.

d. Once the functional organization issue was resolved another equally challenging and time consuming problem surfaced in the manpower community. During the initial Air Staff planning meetings and project briefings, no organization specialists attended. Their first exposure to the project was when one of the MAJCOMs asked for guidance on how to document the new MEO structures being developed at base level. The response was that reorganization guidance outlined in AFR 26-2 was required. That regulation mandates a lengthy question and answer process for each facet of a proposed reorganization. When the MAJCOMs and bases evaluated this guidance, it became clear that either a significant study schedule slip was needed or a more efficient process had to be rapidly developed. The consulting FMET was tasked to review the problem and develop a solution.

e. Unquestionably, AFR 26-2 reorganization procedures are cumbersome, time consuming, and designed to inhibit the expansion of standard organizations. The organization structures being developed at the cost study bases were just the opposite--they represented considerably smaller, leaner, and more efficient operations. The consulting FMET briefed the Air Staff organization office on the study, the organization objectives of the four study bases, and the decision to require final approval authority at HQ USAF/LEYS level. The consulting FMET recommended the lengthy AFR 26-2 question and answer drill be eliminated due to the time problems it would cause and the fact that the MEO back-up data would provide needed justification for any future questions. This recommendation was

5. Many demanding administrative requirements are involved in the evaluation process and they required up front planning. First, all team members reviewed AFR 30-30 and signed conflict of interest statements. Dedicated typing support offers maximum protection for the sensitive documents created by the team. Utilizing protected word processing capability provided additional security. All team members needed their own working copy of each technical proposal to achieve maximum operating effectiveness. A dedicated work area away from the normal office location was necessary to provide the proper atmosphere for concentrated evaluation without normal office disruptions. Many unique forms were developed by the teams to summarize deficiencies and solicit clarification response from the potential contractors.

6. The technical evaluation team must establish a close working relationship with the principal contracting office (PCO). Locating the team and PCO in the same facilities permits the free flow of information between these two closely related functions. The PCO should attend all technical evaluation conferences and training seminars and be readily available throughout the evaluation process. During the early stages when the team concept of operation is formulated, sound and thorough technical guidance by the PCO is imperative. The PCO should also attend discussions concerning overall proposal ratings to assure correct use of contract terminology.

7. Near the end of the study process, the question was asked if a similar technical evaluation review should be made on the in-house bids. A special team of project personnel, including contracting and manpower specialists, examined that issue at the 11-13 Sep 84 lessons learned conference. They determined that such an added review of the in-house bid was not necessary for the following reasons: the MAJCOM and mandated independent reviews were sufficient, the in-house bid would have to be in the same format as that submitted from potential contractors which would add considerable time to the already long study process, and a host of new regulations would be needed to stipulate the procedures. All study team members concurred in that evaluation and unanimously agreed the present process provides sufficient checks and balances to assure consistent quality in-house bids are presented. The success of this project indicates current procedures are effective.

8. In summary, dedicated technical evaluation members, each an expert in a specific functional area, and a harmonious working relationship between the team and the PCO, are essential elements in any quality technical evaluation process. The varying degrees of success of the four teams used in this study directly relate to these key areas.

rejected and the following compromise developed--the consulting FMET would develop the answers to the AFR 26-2 questions, and final organizational change approval would be a joint HQ USAF/LEYS/PRMO decision. This relieved considerable workload from the bases, allowed them to continue developing their MEO, and met the documentation needs of the Air Staff organization office.

f. In the early stages of the MEO development process, there was considerable field and MAJCOM interest in live testing the new organization structures. After in-depth analyses by the Air Staff functional manager and the consulting FMET, it was decided such tests would not permit valid evaluation, and, more importantly, they might prove counterproductive. First, with a mixed civilian and military work force, it would not be possible to evaluate the new structure under a totally civilian environment without removing the large military work force from the area. Second, the new structures included new management concepts and significantly reduced overall manpower levels--things that needed a considerable operational time period to assure proper evaluation and comparison within the existing structures. Finally, all agreed that any large scale testing could not be adequately controlled to prevent the telegraphing of critical in-house bid information to potential contractors. Therefore, in May 83, HQ USAF/LEYS issued a paper that strongly discouraged live organizational testing.

2. Results.

a. After all study actions were completed, a review was made of the various in-house and contractor organization structures. It is interesting to note that, except for minor differences, all were basically the same. The common ingredient in all these structures was the reduction from six to four branches, consolidation of compatible functions, significantly reduced overhead allowances, the almost total elimination of all assistants, and expanded supervisory span of control.

b. Following the work force conversion process, the supply community launched an extensive project aimed at examining what organizational enhancements identified at the cost study bases could be applied throughout the Air Force--the first step in preparation for the follow-on functional review study. The result of that in-depth post study analysis was the recent Air Force reorganization of the SBSS. All organizational changes developed in the cost studies were not adopted, and that was to be expected. As stated earlier, the cost study bases, by definition, were no longer wartime deployable military units. On the other hand, the remaining supply squadrons do have large mobility commitments and their structure must permit rapid deployment. This is an area that required constant emphasis throughout the study. Some individuals removed from the project were eager to extrapolate the non-wartime cost study manpower savings to war critical units. The follow-on functional review study is the proper medium to assess what efficiencies are transferable to wartime supply organizations.

3. How to Improve in the Future.

a. Obviously, the organizational issue was not thoroughly thought out in the early project planning phases. In retrospect, Air Staff organizational experts should have been brought in at the start to help develop an efficient and effective review process. The AFR 26-2 question and answer drill has limited utility in an aggressive "lean and mean" cost study, and the process used in this study still cost many man-hours that could have been better directed to other project problems.

b. AFR 26-2 guidance needs to be changed as it relates to cost studies of functions with standard organization structures. Not only does the documentation and review process need better definition, a means of publishing the newly approved structures is needed. One possibility might be to annotate the standard structure in AFR 26-2 with a note that explains other structures are authorized and operating at bases that won A-76 cost studies. These unique structures should be included in both AFR 26-2 and the appropriate functional directives.

c. Many study team members felt an organization workshop should have been held after the PWS was developed to address all facets of the issue. Through the collective team approach, many ideas can be examined by a group of experts already thinking lean and mean operations. Such a workshop would prevent many wasted base level man-hours. Also, the synergistic effect seen at other study workshops indicated that more and better ideas would result from that process vs each study team working in relative base level isolation. Finally, such a workshop would highlight potential check and balance problems that could be worked at the beginning of the process rather than late in the project when restarts are difficult and time inefficient. Such a workshop would not replace the need for the study bases to develop structures to accommodate their unique requirements.

d. An early statement against live organizational testing would prevent many wasted man-hours of thought and planning at all levels. This issue should be addressed in initial project briefings with solid explanation as to why the concept is deemed not in the best interest of the project.

MANPOWER STANDARDS APPLICATION DISCIPLINE

1. At the beginning of the study planning phase, the consulting FMET conducted a detailed manpower standards application at the four bases. Much to the dismay of the MAJCOMs, the overall results when all four bases were combined showed that approximately 11 percent of the manpower authorizations on the Unit Manpower Documents (UMD) were above the application baseline. Bottom line--these manpower spaces could have been used for other higher priority MAJCOM manpower requirements but were lost to the A-76 cost savings process.

2. Realizing this might be an indicator of similar problems throughout the Air Force, the consulting FMET was asked to accomplish a world-wide base supply price-out. That project revealed an overall four percent manpower excess above the price-out baseline. That information was provided to the Air Staff with the comment that the overage was reasonable since the consulting FMET had no capability to address MAJCOM and base unique additives.

3. As a result of this finding and several subsequent higher headquarters inspections/audits, the manpower standards application process has received increased emphasis. This lesson learned should serve as a constant reminder of how important this phase of the management engineering program is to overall Air Force manpower management effectiveness.

WORKLOAD DATA ANALYSIS

1. All manpower standards require two critical data elements--man-hours required to accomplish a task and how often that task is accomplished (workload, AFR 25-5 and commercial textbooks devote considerable discussion to the many scientific processes available for gathering accurate and statistically representative man-hour data. Unfortunately, accurate man-hours are useless if they are applied to unreliable or unrepresentative workload data. Like management engineering studies, a quality MEO cost study must have as its foundation accurate and highly representative workload data. Not only is the quality of the in-house bid dependent on this fact, so are contractor bids since both normally utilize the same workload data base in developing their minimum manpower requirements.

2. After bid opening, some follow-on workload data analysis was conducted. At one location, the computer generated work unit count for a specific workload factor was approximately 5800 units per month. That value was used by the in-house team in building their minimum manpower estimate of 11 manpower spaces for one specific supply work center. One of the potential contractors carefully analyzed that workload factor and discovered the function only worked directly on 3800 of the total 5800 units--other geographically separated activities processed the remaining 2000 units. Therefore, the contractor bid was based on the 3800 units. Had the in-house team examined this workload factor as closely as the contractor, the in-house bid could have been reduced to 8 spaces--3 spaces less than their bid. Was that significant? Had the three spaces been used instead of five, and one additional manpower space been saved elsewhere in the organization, this particular location would have remained in-service.

3. This discussion is intended to highlight the importance of accurate workload data collection and the need for thorough examination of how those data relate to each work center under study. This is an area where both the in-house MEO study team and consulting FMET can improve their analytical skills.

PERSONNEL PLANNING

1. The larger the number of assigned personnel, the more important solid personnel planning becomes. This is true whether the work force is primarily military or civilian--both need and demand specialized planning. This study directly impacted over 1000 people.
2. The HQ MAC staff did an excellent job of working the many military personnel issues. From the beginning, Kirtland military personnel knew what was happening, how they would be handled, and why they had to remain at Kirtland until the final work force conversion decision. All Kirtland military personnel had the opportunity to work their follow-on assignments well in advance instead of being forced to wait until the end when only crisis assignment action is possible. The smooth and well managed Kirtland military reassignment process not only helped the people involved, it also aided the total Kirtland work force conversion process.
3. Equally important and probably far more emotionally charged is the civilian personnel situation. If the function converts to contract, a massive reduction in force (RIF) exercise must be accomplished that has far reaching impact throughout the base. Additionally, a quality civilian personnel plan at the start can prevent large scale early civilian personnel departures resulting from fear of the activity going contract. Finally, an in-depth civilian personnel plan will have an effective process already developed for the greatly expanded hiring situation that is necessary when the activity remains in-house and the pre-study work force contains many military personnel.
4. At several locations, the civilian personnel classification process was the major pacing factor during development of the in-house cost study due to the enormity of the task. As many as 200 position descriptions (PDs) had to be reviewed, classified, and approved at one location. Again, advance planning will help prevent delays by utilizing an extended review process where PDs are piecemealed to the classification section as functional pieces of the study elements are completed.

LESSONS LEARNED - POST CONVERSION PHASE

- CONTRACTOR ENVIRONMENT**
- IN-SERVICE ENVIRONMENT (KIRTLAND)**

CONTRACTOR ENVIRONMENT

1. During the initial contractor conversion period, many start up problems were to be expected. These problems lasted for nearly five months at one location. One problem area was associated with contractor personnel turnover. Many early contractor hires quickly become disillusioned, and many quit within the first few months of employment. Some of the reasons for their early turnover were low pay, multi-skill tasking, and general job dissatisfaction.
2. Another area that causes considerable turbulence during early stages of contractor conversion is training. If the contractor work force is reasonably experienced in the function or a quality contractor training program is implemented, the conversion process will be relatively smooth. If training is a problem, many difficulties will result which may drag the conversion process over many months, and in some cases, throughout the life of the contract. These same problems were echoed early in the study by the Patrick AFB QAE who had experienced a supply account conversion to contract in the mid 70s.
3. Commanders must quickly indoctrinate all base personnel that many previous "nice to have services" are no longer available under contractor operations. The contractor is only required to provide that level of satisfactory performance prescribed in the governing PWS. Any request for services or support beyond that specified in the PWS must be developed as a change to the basic contract. The more direct customer interface exists in a contracted function (like supply) the more critical this issue becomes.
4. Commanders soon realize that the pool of readily available military personnel on their base has significantly declined when a function like supply converts to a contractor operation. New sources of personnel for mobility exercise augmentation and emergency reaction must be secured from a smaller base population. Contractor surges can be accommodated through a process that provides additional reimbursement for that work which is beyond the limits of the contract.
5. In a large and standardized function like supply, directives and procedures frequently change. If these changes impact the PWS or are vaguely treated in the PWS, negotiations may be needed prior to contractor implementation. This results in a slower response to changes and may involve the paying of additional funds to implement those changes. Naturally, these new relationships, settling in period, the rapport between base officials and the contractor can impact on overall customer support.
6. A formalized process is needed to monitor and implement changes to the approved core PWS and QASP. Changes emanate from local and higher headquarters. The base level functional area chief (FAC) and administrative contracting officer (ACO) must assure these required changes are reviewed in accordance with Section C-6 of the core PWS and as modified for local unique tasks. Changes that directly impact the core PWS and QASP should be maintained by a central activity and reviewed at an annual meeting. Attendees should include the Chief QAE from each contracted location, a contracting representative, and the Air Staff functional manager.

IN-SERVICE ENVIRONMENT (KIRTLAND)

1. The Kirtland MEO clearly achieved the objectives of a "lean and mean" operation. Being nominated as an A-76 cost study base provided all the incentive needed for the Kirtland supply community to build an aggressive in-house bid. They built it based on new and more efficient organization structures and operating procedures because they knew best how to run their business at their base. When they needed help from their manpower community, they got it. Indeed, MACMET Kirtland was a major player in helping the supply community formulate and document a highly competitive bid that ultimately proved more cost effective than those of the private sector. Along the way the Kirtland supply staff needed help from others as well. They generally got it -- from their counterparts on base, their chain of command, their MAJCOM, the consulting FMET, or the Air Staff. They wanted to compete, they were allowed to, they did, and they won.

2. However, winning an A-76 competition is not without its "price" as the lessons learned at Kirtland have shown. Today, Kirtland Base Supply functions are fully satisfactory in every sense of the term. The recent MAC Management Capability Inspection documented that when standard inspection criteria were applied to the Kirtland operation it earned a satisfactory rating. But, that is not to say that Kirtland does not experience its share of problems, or perhaps more appropriately, frustrations. Some are common to those of contracted operations. Some are unique. The following examines both:

a. The assumption that the post conversion in-house civilian work force would be stable, well trained, and highly productive has not proven to be true. Just as with the contractor operations, personnel turnover has been higher than expected. Since conversion in late CY 84, Kirtland has experienced a 32 percent personnel turnover rate which required 51 new civilian personnel fill actions. Just as with the contractor operations, some of the reasons were low pay, multi-skill tasking, and greater worker dissatisfaction. To a large degree, the Kirtland supply activity has become an entry point for people seeking federal employment. Once trained, several have moved to other on-base jobs where there is greater opportunity for promotion, larger salaries, and less demanding working conditions. In a sense, a dual standard of living now exists among Kirtland civilian employees -- one within the "lean and mean" supply activity and the other within the traditionally operated activities.

b. As time has passed, sensitivity to the constraints under which Kirtland supply must function has lessened. Management at all levels has begun to adopt a "business as usual" mind-set, expecting the "nice to have" service level and expecting full conformance to the "Air Force way" of doing business. They fail to recall that Kirtland is now manned to perform only those essential supply functions defined in their PWS -- nothing more. The Supply Division Chief must be constantly alert for requested or mandated service requirements that are not defined or provided for in the current PWS.

c. As with a contracted operation, flexibility is sharply restricted. However, unlike contracted operations, the Kirtland supply activity must also contend with the inspections, staff visits, and programs of a host of other base functional offices, such as safety, administration, security, social actions, and disaster preparedness. While not debilitating, they are unquestionably a source of irritation.

d. Mandated supply policy and procedural changes are a case in point. Over the past several years, all base supply activities, including Kirtland, converted to the Phase IV computer system. During this lengthy conversion process, virtually all major changes were held in abeyance. Once conversion was complete, the Air Force implemented a number of these deferred changes in a very short period of time. Contracted activities have a mechanism to accommodate these changes -- the renegotiation of their contract provisions. No such mechanism exists for Kirtland. Air Force directives are silent on how to accommodate such changes which leaves the winning in-house function expected to perform "business as usual" for work they are not manned to accomplish.

e. The host 1606th Air Base Wing Commander has also become acutely aware of the reduced flexibility of his in-house work force in meeting mission requirements. Elimination of supply blue-suiters significantly lowered the military manpower pool available to surge for contingencies, meet mobility taskings, or perform base details. Other base organizations have had to "take up the slack" and must now commit additional personnel for these unchanged requirements. Unlike the private sector, the use of overtime to support temporary workload increases is not really a viable option to Air Force managers. Civilian pay dollars, already strained by having to fully fund the all civilian supply operation, are simply too scarce and too closely scrutinized to be used for such purposes.

3. All these problems or frustrations seem to point in a common direction-- the policy and procedural void that exists for major in-house winners of A-76 competitions. It is as if the Air Force did not really expect to have to deal with this outcome. Acquisition regulations and contract law readily cover government requirements with respect to contracted operations. Now faced with an in-house "contractor" operation, these same documents do not apply. Manpower regulations are largely silent on the subject. In short, a serious void exists.

4. AFR 26-1, AFR 25-5, and other manpower directives provided helpful guidance and methods to accomplish the MEO and actual cost study. These same directives say nothing on how to process manpower, organizational, and resource allocation issues after the in-house activity wins and changes occur in mission, workload, or procedures. The following recommendations address this problem:

a. The same management philosophies that apply to contracted operations should also apply to winning in-house activities. The PWS is fundamental to this -- it was the basis of the competition. It alone was designed to tell all work forces, contractors and in-house alike, what work is to be done. Therefore, the manpower community should develop and publish specific policy on how to use, apply, and modify the PWS. AFR 26-1 should be amended as follows:

(1) Activities that remain in-house after an A-76 cost comparison study will be governed by the PWS in the same manner as commercial contractors. New or changed taskings must be accompanied by an updated PWS.

(2) Resource adjustments will be accomplished following the PWS update.

(3) The PWS will be published as an Air Staff or MAJCOM directive with applicability statements tailored to the appropriate locations and functions.

b. Most Air Force activities earn their manpower based on the application of Air Force or MAJCOM manpower standards. In-house A-76 winners are not governed by these. Their manpower requirements were developed as a by product of the MEO study process which relates directly to the PWS. AFR 25-5 states that activities remaining in-house will have a manpower standard developed, but it does not address how. AFR 25-5 should be amended to provide specific guidance on how to develop manpower standards for in-house A-76 winners.

5. Changes to manpower directives should serve as a catalyst for initiating changes to other regulations as well. Most notably, the 40-series personnel regulations do not provide separate processes for handling "lean and mean" in-house MEO operations. To put activities like Kirtland supply on more equal footing with their contracted counterparts, recommend personnel directives be amended to include the following:

a. Streamline and accelerate the position description review process to facilitate hiring.

b. Designate in-house A-76 winners as separate merit promotion units to shield them from directed RIF actions impacting the rest of the base.

c. Make many mandatory civilian training programs optional.

d. Promulgate budget guidance to fully fund and "fence" civilian pay dollars for in-house A-76 winners.

6. The Air Force has yet to provide revised inspection methods and criteria for in-house winners. Using their AFR 123-series guidance, MAJCOM inspection and staff assistance teams continue to apply standard inspection checklists that have not been adjusted to the parameters of the PWS. This fails to acknowledge that in-house work forces are expected to perform solely to the standards set in the Performance Requirements Summary (PRS) of the PWS -- the same expected of a contractor. Therefore, AFR 123-series regulations should be amended to include the following:

a. Develop revised procedures using the governing PRS and QASP as the basis for determining if the performance requirements of the PWS are being met.

b. Develop separate inspection criteria to score in-house operations. Fully successful operations like Kirtland, who are rated "satisfactory", are in fact "excellent" or "outstanding" considering they do so as an MEO with considerably fewer resources.

7. One last consideration concerns how and who works the many issues associated with managing a PWS oriented function. The Kirtland MEO did not provide for any in-house activity to manage PWS changes, address problems in adding new requirements, or resolve the host of other non-supply performance issues that have surfaced. In a contracted operation, the QAE staff manages these actions. No such external staff was included in the Kirtland in-house bid. In future large studies, recommend some in-house project management activity be included.

8. In closing, Kirtland accepted the A-76 challenge, worked very hard to win, gave up a lot in the process, won, and are again hard at work successfully providing supply support to fulfill their mission. The Air Force now owes them its support.

The policy and procedural voids must be filled and provisions made for in-house winner. Failing to do so, others that follow will no doubt wonder if the end result of winning a tough A-76 competition justifies the effort required.

OTHER ISSUES

- AIR STAFF A-76 PROJECT MANAGEMENT SYSTEM
- FUTURE RECOMPETITION

AIR STAFF A-76 PROJECT MANAGEMENT SYSTEM

1. Much of the success of this project was directly related to strong leadership by several Air Staff action officers in supply, manpower, and contracting. These important interfaces resulted not from a formal process that required such a team effort, but rather from the positive personalities of the various key action officers and the strong leadership role assumed by the HQ USAF/LEYS project officer.

2. The Sep 84 lessons learned workshop included representatives from every major Air Staff office. They all strongly recommended that their informal team effort be formalized under the direction of an Air Staff A-76 Steering Group. The following comments describe their thoughts on this group.

a. Recommended OPR should be HQ USAF/PRM.

b. This group would meet prior to the official release of A-76 study candidates. At this meeting, they would determine the initial study approach (large, centrally managed team effort like supply; separate base studies; direct contract conversion; etc.) for each function under study. Selecting the approach would be primarily the responsibility for the various functional representatives based on the specific characteristics of the function under study.

c. This group would host a post A-76 Announcement Conference which would be attended by representatives from MAJCOMs (contracting, manpower, functional community), and AFMEA (cost study experts and selected FMETs). The objective of this meeting would be to begin functional planning for each major study based on the key decisions made at the pre-announcement Air Staff Steering Group meeting. Specific issues that would be addressed at the post-announcement conference would be:

(1) Establish the game plan for each study, and decide how that plan will be presented to the MAJCOM staffs and bases (briefings, formal PMD, etc.).

(2) Determine composition of the study teams, if appropriate, and assign major responsibilities.

(3) Select a lead MAJCOM for large studies. A lead MAJCOM would act as focal point for the crossflow of information. This may not be necessary on all projects and/or the role might be assumed by another activity, such as the consulting FMET on the supply study.

(4) Review and determine the FMET role. If an FMET is not available, select an appropriate organization to provide a quality consultant capability.

d. The Air Staff Steering Group would attend all major project workshops to assure their functional knowledge and critical policy expertise is available.

3. Those who criticized this proposal after the Sep 84 lessons learned workshop contend that such a group is not needed. It must be remembered that this recommendation resulted from actual lessons learned on the largest cost study to date, and it came from those at the Air Staff who recognized such a formalized group would have significantly improved this project. Without such a formal process, each A-76 announcement and subsequent study process must progress on

the basis of the personalities currently in place. Much "reinventing the wheel" results when new people struggle to accomplish such challenging tasks as managing a large A-76 program.

RECOMPETITION OF IN-HOUSE WINNERS

1. According to A-76 policy, all functions that remain in-house after undergoing a cost study must go through another exhaustive cost study within five years. On the surface, that policy seems reasonable to assure the activity continues operating at minimum cost and that potentially more competitive contractor proposals are considered. Not stated, but a reality in that policy, is the fact that once a function goes contract, the five year review does not normally include an in-house bid. On the other hand, a function that remains in-house after a cost study must face the complete "in-house/out-house" five year process. To those who win with a quality in-house bid, this process is viewed as one that clearly favors contracting out the activity. With the availability of all cost study data after bid opening and ready access to manpower documents, they contend any reasonably competent contractor should be able to win the second time around with little effort.

2. The Kirtland in-house bid was absolutely a minimum manpower proposal. Any future productivity enhancements will be minor in nature and will have little impact on the next bid. Therefore, future contractors can gather the MEO now and have an easily developed and winning proposal ready for the next time around. As the Kirtland supply staff analyzes this issue, they are beginning to question all their hard work since all it did was probably delay the inevitable by five years. If the government truly wants to ask its in-service people to develop new and innovative processes and organizations and if there is a true commitment to the concept of fair competition on both sides, the five year rebidding policy for winning in-house activities needs reexamination.

3. One alternative would be to convene a panel of functional and management engineering experts after completion of a major cost study to judge the degree of overall new effectiveness achieved. If an in-house activity wins but there is little change in costs, then recompetition in five years might be in order. On the other hand, if an in-house winner produces meaningful savings, then the five year restudy policy should be waived. This would add additional incentive at the start to be really creative, it would demonstrate a strong leadership commitment to supporting and rewarding those who excel, and provide an evenly balanced program for all. Clearly, such a panel would judge the Kirtland in-house accomplishment as the benchmark for others to emulate and therefore would not be automatically recompeted in five years.

POSTSCRIPT

STUDY POSTSCRIPT

1. The cost study of four entire supply squadrons demonstrated the kind of quality work that results when a team effort prevails. These many players, each with a critical responsibility, were never deterred by the critics who said "it couldn't be done" or those who worked hard at constructing formidable obstacles. Instead, the team held steadfast to their commitment of providing the best possible Air Force product. That the project was completed on time and produced significant Air Force savings is the direct result of their team spirit and determination.

2. The base supply study has far reaching impact for the future. Already, many of the lessons learned have been passed to AFRES where their teams are studying entire base operating support activities. The organizational enhancement developed at the four cost study bases resulted in a major worldwide reorganization of the SBSS. Additionally, the follow-on functional review study of base supply and fuels is well underway. Finally, the lessons learned and recommendations addressed in this report should help others avoid many of the problems encountered in the study and post conversion periods.

3. The many factors that made this project successful have been addressed in this report. However, a few overriding "keys to success" underpinned the entire project, and they can be summed in six words: community, creativity, continuity, consistency, cooperation, and communication.

APPENDICES

ABBREVIATIONS

The following abbreviations are used throughout this report:

AFMEA - Air Force Management Engineering Agency

AFMSMMET - Air Force Maintenance, Supply, and Munitions Management Engineering Team

AQL - Acceptable Quality Level

AFSCAG - Air Force Services Contract Advisory Group

CMET - Command Management Engineering Team

FMET - Functional Management Engineering Team

MEO - Most Efficient Organization

MEP - Management Engineering Program

PCO - Principal Contracting Office

PRS - Performance Requirements Summary

PWS - Performance Work Statement

QAE - Quality Assurance Evaluator

QASP - Quality Assurance Surveillance Plan

SBSS - Standard Base Supply System

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BASE SUPPLY COST STUDY LESSONS LEARNED

KIRTLAND AFB NM

<u>NAME</u>	<u>ORGANIZATION</u>	<u>AUTOVON</u>
Lt Col Raymond M. Agnor	56 TTW/LGS	968-2036
Lt Col Barry W. Schmitt	MACMET McGuire/CC	240-2744
Maj Rocky E. Barnard	HQ USAF/LEYS	225-2409
Maj Avelino Reyes-Alfonso	63 MAW/LGSP	876-6614
Mr E. M. Armijo	1606 ABW/LGSPS	244-9411
Mr Benigno T. Canales	1606 ABW/LGSPS	244-9545
Ms Margee Dominguez	MACMET Kirtland	244-0896
Ms Glenda Gray	1606 ABW/LGSPF	244-9545
Mr Carl B. Gregory	HQ MAC/LGSM	576-4780
Mr William D. Keeler	HQ MAC/LGSM	576-5710
Mr Howard M. Pankey	HQ AFSPACOM	692-4991
Mr Robert V. Priest	1606 ABW/LGSPS	244-9545
Mr Al Wenzelburger	MACMET Kirtland	244-0896
Mr Edward B. Zembrzuski	HQ ATC/LGSPS	652-2520

APPENDIX 2

Lessons Learned at Columbus AFB
A-76 Conversion

①

TALKING PAPER

ON

LESSONS LEARNED AT COLUMBUS AFB

A-76 CONVERSION

- MA

- Get RM involved with maintenance early on
 - Indoctrination program
 - Interface with QAE selection and transition planning
- Ensure all service contracts are reviewed, e.g., typewriter repair, copy machine repair, etc. For cancellation or continuance action in accordance with the SOW.
- Review all host-tenant agreements for impact or change
- Budget/plan ahead for moving phones, extra bench stock, and any facility changes
- Have QAE present during government/contractor joint inventory
- Plan for temporary locations for overhead functions with all administrative and communication support requirements during phase-in/phaseout periods
- Ensure adequate individual and safety equipment, e.g., ear protectors, reflectorized belts, etc., are available during transition to cover temporary inflated workforce.
- Completing performance reports and recommendations for decoration will be a mammoth undertaking
 - Centralize as much as possible
 - Start early
 - Be ready to ask for outside help
- Shift structure of the outgoing and incoming organizations will certainly be different, complicating transition. Especially with relation to other workcenters in roles of responsibility
 - Activities performed on given shifts may be different

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- Policy on where aircraft will be worked and when (what priority) may be different. Example: Policies regarding working an aircraft in the hangar for certain categories of maintenance will impact the functions and efficiency of the flight line specialists, control activities, tow team, hangar space, etc.
- Be alert for disgruntled people due to all of the stress of change and personal disappointments caused by all of the assignments and personnel actions. Recommendation: Be aware of the potential incidents and possible sabotage. Notify the OSI immediately as appropriate.
- Rumors of every type will abound. Ensure a good communication flow throughout the complex and maintain constant contact with information source authorities. Especially all civilian employees in maintenance, but also other civilians on the base who may be "bumped" as a result of the conversion.
- Contracts
 - Joint government/contractor inventory should be scheduled for a minimum of 14 days
 - AUTOVON should be provided to the contractor for command and control purposes
 - Special delivery mail service should be provided to the contractor
 - Ensure personnel not accustomed to dealing with contractors receive training to avoid applying "conflict of interest" rules too conservatively and hampering progress
 - Ensure all base functions understand the contracting office is the focal point for all contracting matters
 - Work with maintenance resource advisors to ensure termination action is initiated for any contracts which will be absorbed under the single SOW
- Budget
 - Budget must get ATC to agree to cover the onetime conversion costs (mostly civilian PCS costs). Closely monitor maintenance's supply spending in the months before conversion. A high rate will drive up the cost per flying hour that will have to be compensated for under a contract operation. Be prepared to cover part of the current year contract cost with the "savings" from the civilian payroll (number of civilians in maintenance times average workyear costs times fraction of FY left equal your share of maintenance contract you can expect to fund locally.

Command will provide the rest and expect you to submit an unfunded requirement for the onetime conversion costs once identified)

- Transportation

- Start planning as early as possible
- Meet with TMO personnel and personal property carrier agents/contractors to prepare for increased workload. Keep them updated
- Hold mass briefings after MA personnel receive orders to include individual counseling sessions
- Plan for overtime, night, and weekend work. Be prepared to request assistance from outside agencies
- Recruit augmentees to assist with shipment inspections and quality control of carrier pickups
 - Initiate a crash training course to get augmentees up to speed

- Quality Assurance Evaluators (QAEs)

- QAEs must be identified six months prior to contract start date so they can be trained and will have the time to set up the quality assurance plan, MOIs, equipment accounts, safety program, FCF procedures, etc.

- Operations

- Build a "pad" in the time being to offset any inefficiencies experienced during transition
 - Allow contractor to get "feet on the ground"
- Plan to operate with reduced CAP for at least several weeks
- Require IPs to check aircraft forms and supervise solo student walk arounds
 - Emphasize forms knowledge and training prior to conversion
- Schedule lowest priority flights at the end of the day
- Plan as many simulator backup missions as feasible
- Require aircrews to call the SOP immediately with any significant problems encountered on the flight line to keep information and feedback flowing

- Brief aircrews not to argue with the maintenance personnel
- Preeducate the new maintenance supervisors to understand the operational constraints of the schedule (e.g., turn time, formation flights, crew duty day, syllabus constraints such as maximum number of students turns). Likewise, schedulers in operations should stabilize in their duties prior to conversion in order to carry as much experience and knowledge into this period as possible
- Keep a record of ongoing dialogue of all problems and ensure the involvement of commanders and supervisors in their resolution
- Maintain positive attitude and work the problems at the appropriate level. Do not transmit a lack of confidence down to the line IPs
- Stress safety with aircrew; more malfunctions, repeat write-ups, IFPs and IFEs occurred at Columbus than previously experienced
- Emphasize safety first; don't take a questionable aircraft (don't let pressure make the pilot's decision)
- Lead time ahead, maintenance and OPS need to go over any changes maintenance intends to make in row parking for both launches and recovery of both good jets and broken jets
- Found it best to have all communications concerning schedule changes and adjustments come through one central source in maintenance and OPS. In operations, we used Wing Flight Operations
- Establish and review guidelines and procedures for special category aircraft such as the Wing Commander's aircraft, VIP's aircraft, etc. (Don't assume the new maintenance organization will plan to handle it the same way that has been customary; the contractor writes his own local procedures for those things not specifically detailed required by regulations, that apply to the contractor; the old maintenance operating instructions no longer apply)
- Closely coordinate with maintenance on transient aircraft maintenance hours for weekend and cross-country returns and their capacity of home versus visitor aircraft on specified days
- An early phase-in of contractor schedules and maintenance planners with operations counterparts is very beneficial

- PA

- Early on, draft a public affairs plan addressing procedures and considerations for incoming civilian maintenance
 - Formulate base newspaper coverage
 - Plan media coverage and main areas of emphasis, e.g., not just people leaving but those coming in as well
 - Brainstorm community relations considerations, combat rumors
 - Military affairs committee very useful
 - Regular updates provided at Base Community Council meetings
- Check references to "training/briefings" in the contract to prevent "glitches" with AFR 190-1 briefing
- Get involved with conversion meetings early
- Meet with program director prior to the transition. Projects/procedures requiring PA interception with maintenance should be rewarded
- Hold a new conference to announce award of the contract as soon as possible after announcements in Washington DC
- Outline clearly in media releases who the POC will be for follow-on community questions regarding hiring
- Do not schedule civic leader orientation flights too soon after conversion
- CBPO
 - Personnel available in the WAPS test cycle required testing prior to departure
 - Problems with numerous PCS or schedule changes
 - Personnel out-processed prior to their WAPS testing
 - APRs/OPRs involving considerable overtime to QC
 - Approximately 62% of personnel required an APR/OPR
 - Quality control of decorations needed improvement
 - Projected departure dates on DECOR 6 products became invalid with frequent PCS schedule changes
 - 45XXY retraining and SRB authorization changes caused numerous problems

- Be prepared to assign additional personnel to work outbound assignments
- Squadrons requesting changes in RNLTG for overseas assignments resulted in hold on PCS orders, delay in processing, etc.
 - When word got out units were requesting early RNLTGs, personnel made financial commitments prematurely - many early requests subsequently disapproved
- Establish a point of contact for the maintenance complex to work CBPO issues
 - Look for personnel to be slow to complete security clearance requirements - POC should help with the huge volume required
 - CBPO had difficulty contacting personnel - POC should help
- Return of allocation RIPS a problem again due to volume
 - Requirement is seven days - average was ten and more
 - Look for some lost by individuals, some by supervisors
- Obtaining retainability within 15 days causes problems considering holidays
 - Consider holidays in your preplanning
- Medical clearance forms (1466)
 - Be ready for difficulty getting clearances back from overseas MAJCOMs in a timely manner
- Positive control was achieved when there was a squadron representative (1st sgt/chief clerk) at each of the mass out-processing sessions
- Medical records not always available and at times required letters of nonavailability
- Be prepared for a lack of proper immunizations to cause surge requirements at the clinic
- Family Services
 - Expect increases in requests for base information packages (especially overseas)
 - Closer to departure an increase in loan-outs

- Heavy usage of pots, pans, bedding, etc.
- Civilian Personnel
 - Strategy planning sessions (affirmative employment section)
 - Fixed individual responsibilities
 - Program administration
 - Reproduction/copier support
 - Priority placement program
 - Displaced employment program
 - Reemployment priority list
 - Interagency placement assistance program
 - Reduction-in-force
 - Forms procurement
 - RIF Preparation
 - Develop worksheets
 - Household goods cost comparison - for completion by TMO
 - Cost estimate by EEIC and fund citation - for completion by ACFPT
 - PCS orders information
 - PPP information for position offers
 - Form letters
 - RIF packages
 - RIF notices
 - Assignment to lateral positions
 - Offers of change to lower grade in lieu of separation
 - Displacement by persons with higher retention standing

- Store notices on mag card/disk file for production of individualized notices
- Employee opportunities to update experience
 - Pull experience briefs and suspenses established before RIF notices for review and signature (must establish formal deadline)
 - Do not accept updates to experience after deadline as RIF placements are being made based upon experience
- Determining retention standing
 - Reviewed tenure of affected employees - manually adjusted employees on retention register based on tenure as of conversion date
 - Determined assignment rights based upon tenure standing on conversion date
- Priority placement registration
 - Skeletonize DD Forms 1817 on affected employees in advance
 - Employees register only for grades/geographic locations for which willing to relocate
 - Registering activity pays all expenses including travel time
- Position Management
 - Freeze permanent fills in all base organizations
 - Stockpile positions for possible use by affected employees
 - All position changes, abolishment actions must be passed to affirmative employment as this affects position offers to affected employees
 - Establish QAE positions in support of affected function before beginning RIF
 - CECMC prioritization of vacancies
 - CECMC approval to use vacant positions for RIF offers
 - DC's commitment to waive qualification standards when feasible for affected employees

-- PDS Coding

- During cost study, code affected employees in priority placement code "C1" to ensure consideration for appropriate placement actions during notice period
- After assignment rights have been determined - code "G1" for RPL considerations after separation. Note: This must be done before separation as records cannot be assessed once separation has consummated

-- Advance Actions

- Military PSM ran DESIRE to identify military maintenance
- Identify appropriated fund and NAF employees who are dependents of military
- Obtain waiver of requirement to clear stopper list for positions affected by cost study and positions stockpiled for affected employees
- Obtain approval for early retirement from OPM
- Obtain critical military skills waiver which allows the use of CMS positions as position offers for affected employees

-- Performance

- Ensure employees are working in accordance with current position descriptions
- Appraisals must be completed in a timely manner
- CCPO must be alerted if performance problems occur. (Performance problems could render an employee ineligible for the Priority Placement Program)

-- Position descriptions of most efficient organization

- Working group established early in the study
- Point of contact for classification specialists should be personnel from aircraft maintenance
 - Maintenance representatives contact subordinated supervisors thereby negating bogging down classification specialist with different supervisory levels
- Develop PDS by block and branch

-- Reproduction/Copier Support

- Have IM reproduce brochures/form letters for RIF informational packages
 - Coordinate copier needs with IM
 - Obtain loaner copier machine
 - Massive copying required
 - SFs 171 for DEP/IPAP
 - Registration forms for DEP/IPAP/PPP
- Information Management
 - Ensure provisions are made for the contractor to furnish a publications and forms representative prior to contract start date
 - Maintenance should ensure CARs are prepared to close accounts prior to contract start date
 - Ensure clear guidance is provided in the SOW on how to maintain AF Records
 - Assist QAEs in developing checklists to inspect accounts and records in accordance with AFRs 5-31, 12-20, and 12-50
 - Prior to contract start date, determine distribution stops, personnel (contractor and QAEs) who are authorized to accept delivery of accountable mail
 - A special orders clerk should be trained on orders and proper distribution
 - Administrative personnel should be available at least 15-30 days prior to contract start date to work administrative matters
 - Ensure the QAEs receive a copier
- Civil Engineering
 - Ensure facility work will not interfere or impact with maintenance conversion
 - Review contractual work agreements to ensure maintenance conversion will not adversely impact or delay completion schedules.
 - Ensure the contractor is briefed on building managers program at one time

- Ensure contractor building managers and alternates are appointed and trained prior to contract start date
- Maintenance should ensure outgoing primary or alternate building manager is present for transfer of responsibility
 - Any discrepancies found during the inventory should be reported to real property for the same day
- Maintenance should ensure outgoing building managers are introduced to contractual building managers at the initial building manager's training session
- Military personnel remaining past conversion date should be assigned to projects and tasks throughout the base
 - Allocate funds to buy the materials to support them
 - Identify specific numbers and skills of personnel and their period of availability far enough in advance to accurately plan resources and feasible projects
 - Changes to orders and leave plans can greatly impact the available work force
 - The supervisory structure and "who is in charge" can also greatly affect the practical and usable work force
 - Appoint a single point manager and daily meetings to keep organized, assess progress, and to control the priorities which are likely to change as the work force dwindles
 - Use the Deputy Base Commander, key civil engineering personnel, and designated key maintenance supervisors to act as the control group and the Deputy Base Commander chairing the meeting and giving direction
- As maintenance personnel vacate base housing the number of vacancies will jump dramatically
 - The Grounds Shop may be able to keep up with the lawn maintenance for vacant base housing units
 - An additional detail should be established to cut grass full time
 - Even with the detail, equipment limitations may limit the ability to maintain desired standards
 - A conversion date during the peak growing season will take considerable planning ahead for lawn maintenance, including watering lawns, general upkeep, and other problems associated with large numbers of vacant units

- Civil Engineering and Maintenance need to review all outstanding work orders on maintenance facilities ahead of conversion to determine if they will be required under the new organization
 - The contractor may not use all facilities previously used by maintenance or could use them in a different way
- Local/DITY moves increased by approximately 250 moves. Most of these moves will be accomplished in a relatively short period of time
- Restrictions in realigning funds from one subproject to another has created problems in funding shortages
 - Services area is usually underfunded. Increased entomology services for change of occupancy maintenance due to large maintenance turnover cannot be fully supported. Excess funds available in 721.1X could not be moved to cover shortage. Only source of additional funds is HQ ATC
- Contact all eligibles and ineligibles on waiting lists two to three months before OMS/FMS family housing occupants commence moving out. Determine their lease/rental agreement termination dates, or if they are homeowners
- Determine PCS dates of OMS/FMS housing occupants
- Match eligibles then ineligibles against these departures by projections against all known departures 30-45 days ahead, if possible
- Arrange for temporary clerical help two to three months in advance of OMS/FMS move-out commencement date, to allow sufficient training. You will need the help
- Make advance arrangement for a couple of military NCOs in addition to the civilian overhire, to perform yard inspections and to assist in housing inspections
- Consider making appointment with housing occupants for termination of quarters
- Negotiate more house cleaning contract service or cleaners to absorb the tremendous temporary increase in turnover during the A-76 conversion
- There will be a tremendous increase in housing change of occupancy maintenance (COM) during this period. If this work is under contract there is probably a time limit on performing COMs. You should negotiate with the Military Family Housing Maintenance Contractor in advance to allow

more time and/or for him to hire more employees to perform COM in the time frame of the contract. If housing maintenance is performed in-house the same problem exists; that is, to perform COMs in the expected (average) time, additional manpower will be required or the turnaround time for COMs will be much longer

- Ensure (ahead of time) adequate funds are available for extra house cleaning and COM increases during the A-76 conversion
- Plan ahead: Are there enough military personnel left on base housing waiting list to fill the vacated units or will eligibility requirements have to be lowered?
- Homeowners Assistance Program
 - Prior to award of contract and announcement
 - Get information from a base that has been through it
 - Contact your applicable District Corps of Engineer Real Estate Division for guidance
 - Monitor, familiarize yourself with AFR 30-26 and Engineer Regulation (ER) 405-1-12
 - Contact ATC/DEPE, Ms Leatherwood, AUTOVON 487-2994
 - After Reduction Action (publicly announced)
 - Coordinate with District Corps of Engineers on possible preliminary review for probable housing market impact
 - Articles in base newspaper and bulletin
 - Letters to OMS/FMS squadrons
 - Ask for list of all homeowners with address
 - Corps uses with map to pin point problem or concentration areas
 - Encourage early sale of homes and move in to base housing (if six months retentivity), or make temporary off base rental arrangement
 - Make up and distribute informal data sheet/form for individuals attempting to sell. This is used as backup information needed to prove impact/difficulty before Corps of Engineers can declare depressed or stagnant market was caused by this reduction. Publicize the need for this information and form

- Request Corps of Engineers actual impact determination survey when sufficient proof/completed forms are available to justify
- Unless a large number of OMS/FMS homeowners make early attempts and prove a problem in selling homes for more than a reasonable period of time, insufficient impact will be realized until departures from the area. This will cause more foreclosures leaving houses unsold or deeding back to the mortgage company because of inability to make two house payments
- Fire Protection
 - Ensure contractor understands fire protection requirements
- Security Police
 - Pass and identification section:
 - Ensure the contractor personnel officer provides Pass and ID with the completed AF Form 355, Application for Civilian Identification, approximately one week prior to the contract start date
 - Ensure the identification cards and the accountability logs are typed prior to the individual coming for the card
 - When the individual comes for their cards, the only thing left to do is to take their picture and have then sign the card
 - Having a majority of the work completed prior to the arrival of the customers saved a significant amount of time at Pass and ID.
 - Be aware of potential problems with vehicle registration and state requirements. Contractor employees may come from out of state and may not be aware of any requirements to obtain state license plates and (or) drivers license. Employees should be briefed during the hiring process by the contractor, so they can be aware of the vehicle registration requirements and have the proper paperwork when they come to register their vehicles
 - Information Security Section
 - Ensure Base Contracts notify Security Police when requesting bid for a classified contract
 - Ensure a security agreement is accomplished prior to the contractor start date

- Visitor request letters should be sent to Security Police 30 days prior to contract start date
 - A letter from the home office appointing the primary and alternate security manager should be given prior to issuance of restricted area badges
- Legal Office
 - Because of a multitude of PCSs and DOSSs, expect a significant increase in Wills and POAs
 - By attending briefings for the maintenance troops and asking that they plan ahead, you may be able to spread them out over a six month period
- Justice actions should reduce during the period after assignments were released
 - Expect an increase in requests for hardship, humanitarian and miscellaneous discharges
 - Many requests may be simply poorly disguised attempts to get out of the service and go to work for the contractor
 - Many maintenance troops found it hard to get credit or cash checks off-base after the announcement of the study. The local merchants were afraid of getting stuck with bad debts from people getting out of the service or going overseas
 - Because of the projected increase in civilians on-base, look into asking the US Attorney to allow you to establish a Magistrate Program. The Magistrate Program provides the needed flexibility to handle civilian cases
 - Expect a reduction in manning because of the reduction of military personnel
 - This reduction may be too quick, there should be a longer transition period. Many of the maintenance people did not PCS or get out of the service for two to four months. Additionally, many of the contract employees are retired military and added to legal assistance
 - Additionally, efforts should be made to limit normal legal office turnovers during the changeover period.
- Plans
 - A method needs to be established to speed up the acquisition of security clearances for contractor personnel. The key to this process is ensuring the contractor knows the individual requirements and the time constraints. Nothing will begin in the process until the contractor submits the proper

paperwork. It is a long process. Lack of a security clearance for the designated contractor plans official and other key personnel prevented the contractor from taking over responsibility for the entire war/contingency plans program even though only the classified portion was affected

NOTE: Under a military/government organization, both CBPO and CPO maintains the Automated Security Clearance Approval System (ASCAS) roster of individual personnel with security clearances. Under a contract organization the security police function maintains the corporate file

-- Contractors should be required to have the maintenance plans program developed or reestablished by contract start date. This should include as a minimum;

--- Appointment of primary and alternate plans representatives (requirement for security clearances initially waived)

--- Having all applicable, unclassified plans on file and all plan OPRs and Wing Plans office notified of any changes in previous maintenance distribution requirements

--- Accepting previously used maintenance execution checklists for implementing contingency plans or having new checklists developed

NOTE: While assistance from the Wing Plans office should be provided throughout this period, an initial plans program staff assistance visit should be conducted within six weeks of contract start, with appropriate reports and answers required

--- A milestone be established in phase-in for having above requirements completed

- Disaster Preparedness

-- The contractor DCG representatives, DECON team, CSS member, DPO/NCO, etc., be completely trained before turnover of old maintenance unit to contractor

--- A milestone be established in phase-in for having above requirement completed

- MWR

-- With the loss of personnel as a result of the conversion to maintenance, it is important to relook each program and reduce the scope of those programs that receive high maintenance participation

--- Enlisted Club

- Ensure the NAFFMB watches delinquent accounts closely and all accounts are cleared before personnel leave base
- Hours may have to be adjusted since military personnel have different use habits than contract personnel
- Size of the staff will have to be adjusted in anticipation of decreased revenue. Some contract employees will join but not to the extent military personnel will
- Youth Center: Anticipate the number of children using the facility to be reduced. Prepare for a reduced sports program and social program
- Snack Bars: Ball field snack bar sales will go down due to the decrease in maintenance softball teams and spectators. Bowling center snack bar should do well because most military were on meal cards and contract employees use on-base facilities. Need to push hard for that market
- Arts and Crafts: Little or no impact
- Auto Hobby Shop: Expect some loss from maintenance leaving but look at getting the civilian workforce to use the facility
- Athletic Center: Reduced scope in intramural programs
- Child Care Center: No real impact because salary of staff is tied to patron use. Expect to pick up some contract personnel
- Golf Course: No impact
- It is important to market program to contract employees. They are a valuable source for participation and income
- Insert letter of services offered in each employee orientation packet
- Get to know key contract personnel and learn how information flows within that organization
- Let them know they are an integral part of base organization and encourage participation in off-duty recreation opportunities
- Hold promotional specials in Clubs and recreation areas

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exhibits and update then for final inventory. Inventory by CTK# and drawer. Ensure all listings are recorded in a work processing machine as retypes after contractor inventory will occur. Expect to retype about 70% of the tool and equipment lists for the final contract

- Collect spare office supplies 60 days in advance to a central point and assign one person to take care of supplying the complex. Collect all LP cards 30 days prior.
- Collect spare tools 30 days prior. Collect all tool cards at that time. Assign one person to take care of supplying the complex
- Excess office supplies should be passed on to base organizations and the new QAE,
- Recommend you turn over all or almost all tools and equipment to the contractor initially. Then let the three person inventory management team take care of turn-ins after the contractor takes over and determines his actual needs. You will have plenty of detail personnel available to assist in moving excess to a central location for redistribution
- Don't turn CA/CRL, SPRAM, or supply point lists until the day before inventories. Ensure sections don't initiate any actions that would create changes. It is better to turnover a broken item rather than have to run down paperwork in Base Supply during the inventory.
- Resist using the Chain of Command to give directions on how to accomplish inventories and related matters. Direct briefings from the DCM or his POC to shop chiefs is highly recommended to avoid misunderstanding in passing this type information.
- Personal Details Following Conversion
 - Allow and encourage personnel to locate "permanent" jobs in other base agencies until departure. This should be done well in advance. Finalize these jobs 30 day prior. This will greatly reduce the number of personnel you must manage as your chain of command deteriorates because of PCS
 - Establish a daily roll call at a designated time(s) for all personnel then release them to preassigned jobs or place them on details. If CE prioritizes projects and has materials on hand in advance, these details will operate quite smoothly.

NOTE: It is important for the base at large to prepare ahead for this period of time and to have a responsible authority figure in charge.

- Maintain a chain of command and control over your personnel by placing maintenance supervisors on all details. We recommend using agencies direct all instructions and communications to your supervisors who, in turn, will direct the task being accomplished.
- Communications
 - Telephonic inputs
 - Identify AUTOVON requirements
 - If AUTOVON is required by the contractor, identify the number of personnel requiring access to AUTOVON. Justification must show that WATS access will not provide the required service or service is at a lower cost using AUTOVON rather than WATS
 - Request AUTOVON waiver IAW AFR 700-8 at the earliest possible date (IAW AFR 700-8 contractors will not be given access to AUTOVON without a waiver from HQ USAF)
 - If an additional WATS line is required, submit Request for Service (RFS) as soon as possible .
 - Establish control for use of either AUTOVON or WATS calls
 - Determine type of access required from each telephone (A, B, C)
 - Limit the number of telephone relocations
 - Require the contract QAE be identified as the Contractor Telephone Control Officer. Feel this action will reduce the number of telephone relocation requests.
 - Land Mobile Radio/Pager Inputs
 - Identify in the contract the number of radio(s) that will be GFE to the Contractor and also the number required by the contract QAEs. Also identify replacement procedures for the GFE
 - Identify in the contract and documented by the Base Communications-Computer Systems Requirements Board (CSRB) if approval is given for the use of the Base Paging System without an additional requirement for expenditures
 - Ensure the contract has identified the requirement for contractor provided pagers and ensure the contractor has these when the contract is begun. GFE provided pagers require a waiver to an AF regulation

-- Computer Requirements Input

- Identify all repeat all GFE computer equipment required. All requirements should be reviewed by the Base Equipment Control Officer and validated by the CSRB
- Identify procedures for return of GFE to base agency control. This should also include a date for a complete review of GFE equipment by the contractor and the ECO again validated by the CSRB (approximately 90 days following initiation of the contract)
- All computer software must be identified, and procedures established for their control. These procedures must include action to ensure the contractor does not use GFE equipment for his/her personal use (not directly in support of the Air Force mission)

-- Budget Inputs

- Without proper planning for AUTOVON or WATS usage, telephone relocation budget planning is impossible
- Communication-computer requirements must be coordinated with the local communications unit to ensure proper budget action take place. If not the contractor could suffer a penalty because the contract could not be 100% completed

LIST OF REFERENCES

1. Smith, Robert A., III. The Development of Air Logistics Doctrine 1948-1956. Mobile Air Materiel Area, Brookley AFB, Ala., 1 Apr 1957.
2. Lee, Colonel Robert E., USAF. "Contractor versus Depot Maintenance of Weapons Systems." Research report, Air War College, Maxwell AFB, Ala., April 1959.
3. "History of the 3575th Pilot Training Wing, July 1960-December 1960." Air Force unit history, Vance AFB, Okla.
4. "History of the 3630th Flying Training Wing, January 1966-June 1966." Air Force unit history, Sheppard AFB, Tex.
5. Performance of Commercial Activities, Office of Management and Budget Circular A-76. Washington: Government Printing Office, August 1983.
6. Moore, Robert. "ATC Cost Comparison Program." HQ ATC/XPMRC talking paper. Randolph AFB, Tex., 5 May 1989.
7. President's Private Sector on Cost Control: Report on Privatization. Washington: Government Printing Office, Spring-Fall 1983.
8. Grier, Peter. "Has Privatization Gone Too Far?" Military Forum, April 1989, pp. 30-35.
9. Childre, Captain Don, USAF. "Contract or Organic Maintenance: A Matter of Dollars and Common Sense." Air Force Journal of Logistics, Summer 1989, pp. 38-40.
10. Beffer, Chief Master Sergeant Joseph M. "Reasons for ATC Cost Comparison Studies." HQ ATC/LGMMQ position paper. Randolph AFB, Tex., 21 September 1988.

11. Young, Peter. "Privatization Around the World." Proceedings of the Academy of Political Science, 1987, pp. 191-205.
12. Base Supply A-76 Cost Studies Lessons Learned. Letter with attachment, HQ USAF/LEYS to ALMAJCOM/LGS, Washington, DC, 16 June 1986.
13. Wallace, Colonel Geary W., USAF. "A-76 Cost Comparison of ATC Aircraft Maintenance." HQ ATC/LGM briefing delivered to Deputy Assistant Secretary of the Air Force for Logistics, Randolph AFB, Tex., 14 March 1989.
14. Lessons Learned. Letter, HQ TAC/LGMC to author, Langley AFB, Va, 10 October 1989.
15. Dunning, Major Wallace W., USAF. "Contract versus Military Maintenance of Aircraft at United States Flying Training Bases." Research report, Air Command and Staff College, Maxwell AFB, Ala, April 1963.
16. "History of Sheppard Technical Training Center, January 1967-June 1967." Air Force unit history, Sheppard AFB, TX.
17. "History of Sheppard Air Force Base, July 1968-December 1968." Air Force unit history, Sheppard AFB, Tex.
18. Soper, Brigadier General W. John, USAF. "A-76 Cost Comparisons." HQ ATC/LG briefing delivered to the Air Force Logistics Board of Advisors, Randolph AFB, TX, 30 November 1989.
19. Request for Proposal number 9-1569U-M1. HQ ATC/LGCX, Randolph AFB, Tex., April 1989.
20. Base Level Service Contracts. Air Force Regulation 400-28, Vol 1. Washington: Department of the Air Force, 26 September 1979.
21. Contracting for Major Operations and Maintenance Services. Air Force Pamphlet 400-29. Washington: Department of the Air Force, 15 November 1982.

22. Soper, Brigadier General W. John, USAF. "Status of Civilian Maintenance in Air Training Command." HQ ATC/LG briefing delivered to Air Training Command commander's conference, Randolph AFB, Tex., January 1989.
23. Schaub, Major Kenneth L., USAF. "So You're a Candidate for Contracting Out: Plain Talk About Cost Comparison Studies for the Base Level Manager." Research report, Air Command and Staff College, Maxwell AFB, Ala., April 1985.
24. House, Armed Services Committee Subcommittee on Readiness, Contracting Out of Trainer Aircraft Maintenance at Columbus AFB, Mississippi, and A-76 Issues at Fork Fork, Congressional hearing resume prepared by SAF/LLP, 101st Cong., April 1989, pp. 1-4.
25. Mosemann, Lloyd K., III, Deputy Assistant Secretary of the Air Force (Logistics), Statement before the House Armed Services Subcommittee on Readiness, 27 April 1989, pp. 1-15.
26. Hutto, Earl. Chairman, House Armed Services Committee Subcommittee on Readiness, Statement during hearings on Air Force and Army contracting out issues, 27 April 1989, pp. 1-5.
27. Wilson-Smith, Anthony. "Jet Fighter Politics." Maclean's, September 22, 1986.
28. Clark, Marc. "Manitoba's Week of Anger." Maclean's, November 17, 1986, pp. 15.
29. Appleyard, James C. "Contracting Out--Key Decisions to be Made." Aerospace Intelligence, November 29, 1982, pp. 14-16.
30. Conversion of UPT Aircraft Maintenance from Military Manning. Memorandum, Deputy Assistant Secretary of the Air Force for Logistics, Washington, to HQ USAF/CVA, 20 March 1989. pp. 3-4.
31. Hamlin, Lieutenant Colonel Mary B., USAF. "Contracting Lessons Learned." HQ ATC/LGMM briefing delivered to naval contracting personnel, Randolph AFB, Tex., 11 May 1989.

32. "Review of Contracting for Maintenance of Training Aircraft and Training Equipment at Lowry AFB, Columbus AFB, and Meridian NAS." United States General Accounting Office Report number B230508, Washington, DC, 20 March 1989.
33. Air Logistics Center Support of Overseas Maintenance Contractors. Report of Audit number 6106210. Air Force Audit Agency, Norton AFB, Calif., 9 October 1986.
34. Pulliam, Senior Master Sergeant Philip, USAF. "Lessons Learned at Columbus AFB." HQ ATC/LGMMP talking paper, Randolph AFB, Tex., 8 May 1989.
35. Lessons Learned on AT-38 Aircraft Maintenance Contract. 479th Flying Training Wing/LGC memorandum, Holloman AFB, N. Mex., 14 October 1988.
36. Base Level Service Contract Administration. Air Force Regulation 70-9. Washington: Department of the Air Force, 17 August 1984.
37. Manpower Policies and Procedures Commercial Activities Program. Air Force Regulation 26-1, Vol 1, Washington: Department of the Air Force, 28 August 1987.
38. Standardization of QAE Authorizations/Crossflow Areas." HQ ATC/LGM letter, Randolph AFB, Tex., to all ATC UPT bases, 4 November 1988.
39. ATC Quality Assurance Evaluator Course Plan of Instruction. Course Training Standard 393ATC0066-002. Headquarters Air Training Command, Randolph AFB, Tex., 9 January 1989.
40. Andrews, Senior Master Sergeant Arthur, USAF. "Quality Assurance Evaluators." HQ ATC/LGMMP talking paper, Randolph AFB, Tex., 6 September 1989.
41. Hamlin, Lieutenant Colonel Mary B., USAF. "QAE Standardization Training Roadmap." HQ ATC/LGMM talking paper, Randolph AFB, Tex., 15 September 1988.
42. Wallace, Colonel Geary W., USAF. Director of Maintenance Engineering, HQ ATC. Telephone interview, 25 November 1989.

43. Borklund, C. W. "Comment on A-76 Cost Comparisons:
Two Plus Two Never Equals Four." Government
Executive, July 1982, pp. 6-8.

BIBLIOGRAPHY

1. Air Logistics Center Support of Overseas Maintenance Contractors. Report of Audit number 6106210. Air Force Audit Agency, Norton AFB, Calif., 9 October 1986.
2. Andrews, Senior Master Sergeant Arthur, USAF. "Quality Assurance Evaluators." HQ ATC/LGMMP talking paper, Randolph AFB, Tex., 6 September 1989.
3. Appleyard, James C. "Contracting Out--Key Decisions to be Made." Aerospace Intelligence, November 29, 1982, pp. 14-16.
4. ATC Quality Assurance Evaluator Course Plan of Instruction. Course Training Standard 393ATC0066-002. Headquarters Air Training Command, Randolph AFB, Tex., 9 January 1989.
5. Base Level Service Contracts. Air Force Regulation 400-28, Vol 1. Washington: Department of the Air Force, 26 September 1979.
6. Base Level Service Contract Administration. Air Force Regulation 70-9. Washington: Department of the Air Force, 17 August 1984.
7. Base Supply A-76 Cost Studies Lessons Learned. Letter with attachment, HQ USAF/LEYS to ALMAJCOM/LGS, Washington, DC, 16 June 1986.
8. Beffer, Chief Master Sergeant Joseph M. "Reasons for ATC Cost Comparison Studies." HQ ATC/LGMMO position paper. Randolph AFB, Tex., 21 September 1988.
9. Borklund, C. W. "Comment on A-76 Cost Comparisons: Two Plus Two Never Equals Four." Government Executive, July 1982, pp. 6-8.

10. Childre, Captain Don, USAF. "Contract or Organic Maintenance: A Matter of Dollars and Common Sense." Air Force Journal of Logistics, Summer 1989, pp. 38-40.
11. Clark, Marc. "Manitoba's Week of Anger." Maclean's, November 17, 1986, pp. 15.
12. Contracting for Major Operations and Maintenance Services. Air Force Pamphlet 400-29. Washington: Department of the Air Force, 15 November 1982.
13. Conversion of UPT Aircraft Maintenance from Military Manning. Memorandum, Deputy Assistant Secretary of the Air Force for Logistics, Washington, to HQ USAF/CVA, 20 March 1989. pp. 3-4.
14. Dunning, Major Wallace W., USAF. "Contract versus Military Maintenance of Aircraft at United States Flying Training Bases." Research report, Air Command and Staff College, Maxwell AFB, Ala, April 1963. .
15. Grier, Peter. "Has Privatization Gone Too Far?" Military Forum, April 1989, pp. 30-35.
16. Hamlin, Lieutenant Colonel Mary B., USAF. "Contracting Lessons Learned." HQ ATC/LGMM briefing delivered to naval contracting personnel, Randolph AFB, Tex., 11 May 1989.
17. Hamlin, Lieutenant Colonel Mary B., USAF. "QAE Standardization Training Roadmap." HQ ATC/LGMM talking paper, Randolph AFB, Tex., 15 September 1988.
18. "History of Sheppard Technical Training Center, January 1967-June 1967." Air Force unit history, Sheppard AFB, TX.
19. "History of Sheppard Air Force Base, July 1968-December 1968." Air Force unit history, Sheppard AFB, Tex.
20. "History of the 3575th Pilot Training Wing, July 1960-December 1960." Air Force unit history, Vance AFB, Okla.

21. "History of the 3630th Flying Training Wing, January 1966-June 1966." Air Force unit history, Sheppard AFB, Tex.
22. House, Armed Services Committee Subcommittee on Readiness, Contracting Out of Trainer Aircraft Maintenance at Columbus AFB, Mississippi, and A-76 Issues at Fork Polk, Congressional hearing resume prepared by SAF/LLP, 101st Cong., April 1989, pp. 1-4.
23. Hutto, Earl. Chairman, House Armed Services Committee Subcommittee on Readiness, Statement during hearings on Air Force and Army contracting out issues, 27 April 1989, pp. 1-5.
24. Lee, Colonel Robert E., USAF. "Contractor versus Depot Maintenance of Weapons Systems." Research report, Air War College, Maxwell AFB, Ala., April 1959.
25. Lessons Learned. Letter, HQ TAC/LGMC to author, Langley AFB, Va, 10 October 1989.
26. Lessons Learned on AT-38 Aircraft Maintenance Contract. 479th Flying Training Wing/LGC memorandum, Holloman AFB, N. Mex., 14 October 1988.
27. Manpower Policies and Procedures Commercial Activities Program. Air Force Regulation 26-1, Vol 1, Washington: Department of the Air Force, 28 August 1987.
28. Moore, Robert. "ATC Cost Comparison Program." HQ ATC/XPMRC talking paper. Randolph AFB, Tex., 5 May 1989.
29. Mosemann, Lloyd K., III, Deputy Assistant Secretary of the Air Force (Logistics), Statement before the House Armed Services Subcommittee on Readiness, 27 April 1989, pp. 1-15.
30. Performance of Commercial Activities, Office of Management and Budget Circular A-76. Washington: Government Printing Office, August 1983.
31. President's Private Sector on Cost Control: Report on Privatization. Washington: Government Printing Office, Spring-Fall 1983.

32. Pulliam, Senior Master Sergeant Philip, USAF. "Lessons Learned at Columbus AFB." HQ ATC/LGMMP talking paper, Randolph AFB, Tex., 8 May 1989.
33. Request for Proposal number 9-1569U-M1. HQ ATC/LGCMX, Randolph AFB, Tex., April 1989.
34. "Review of Contracting for Maintenance of Training Aircraft and Training Equipment at Lowry AFB, Columbus AFB, and Meridian NAS." United States General Accounting Office Report number B230508, Washington, DC, 20 March 1989.
35. Schaub, Major Kenneth L., USAF. "So You're a Candidate for Contracting Out: Plain Talk About Cost Comparison Studies for the Base Level Manager." Research report, Air Command and Staff College, Maxwell AFB, Ala., April 1985.
36. Smith, Robert A., III. The Development of Air Logistics Doctrine 1948-1956. Mobile Air Materiel Area, Brookley AFB, Ala., 1 Apr 1957.
37. Soper, Brigadier General W. John, USAF. "A-76 Cost Comparisons." HQ ATC/LG briefing delivered to the Air Force Logistics Board of Advisors, Randolph AFB, TX, 30 November 1989.
38. Soper, Brigadier General W. John, USAF. "Status of Civilian Maintenance in Air Training Command." HQ ATC/LG briefing delivered to Air Training Command commander's conference, Randolph AFB, Tex., January 1989.
39. Standardization of QAE Authorizations/Crossflow Areas." HQ ATC/LGM letter, Randolph AFB, Tex., to all ATC UPT bases, 4 November 1988.
40. Wallace, Colonel Geary W., USAF. "A-76 Cost Comparison of ATC Aircraft Maintenance." HQ ATC/LGM briefing delivered to Deputy Assistant Secretary of the Air Force for Logistics, Randolph AFB, Tex., 14 March 1989.
41. Wallace, Colonel Geary W., USAF. Director of Maintenance Engineering, HQ ATC. Telephone interview, 25 November 1989.
42. Wilson-Smith, Anthony. "Jet Fighter Politics." Maclean's, September 22, 1986.

43. Young, Peter. "Privatization Around the World."
Proceedings of the Academy of Political
Science, 1987, pp. 191-205.