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STUDENT REPORT

ACCELERATING THE CONTRACTING PROCESS--A CASE STUDY OF THE SMALL ICBM PROGRAM

MAJOR ROBERT S. ANDERL 85-0105

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REPORT NUMBER 85-0105

TITLE ACCELERATING THE CONTRACTING PROCESS--
A CASE STUDY OF THE SMALL ICBM PROGRAM

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Submitted to the faculty in partial fulfillment of requirements for graduation.

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AIR UNIVERSITY
MAXWELL AFB, AL 36112

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UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

AD A 157201

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) 85-0105	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION ACSC/EDCC — 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State and ZIP Code) Maxwell AFB AL 36112	7b. ADDRESS (City, State and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION — 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State and ZIP Code)	10. SOURCE OF FUNDING NOS. PROGRAM ELEMENT NO. / PROJECT NO / TASK NO. / WORK UNIT NO
11. TITLE (Include Security Classification) ACCELERATING THE CONTRACTING	
12. PERSONAL AUTHOR(S) Anderl, Robert S., Major, USAF	
13a. TYPE OF REPORT — 13b. TIME COVERED FROM ____ TO ____	14. DATE OF REPORT (Yr., Mo., Day) 1985 April — 15. PAGE COUNT 47
16. SUPPLEMENTARY NOTATION ITEM 11: PROCESS -- A CASE STUDY OF THE SMALL ICBM PROGRAM	
17. COSATI CODES FIELD / GROUP / SUB. GR.	18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Increasing interest in government acquisitions and the stewardship of public funds has resulted in additional reviews and approvals at all levels of the acquisition process. This has caused a general slow down in the ability of the acquisition professional to place new requirements on contract in a timely fashion. This paper examines contracting methods used by the Small ICBM Program which resulted in substantial reductions of contracting lead times and administrative burdens. The paper highlights ten potential short cuts available for use by other Air Force or DOD program managers and acquisition professionals.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☒ DTIC USERS ☐	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL ACSC/EDCC Maxwell AFB AL 36112	22b. TELEPHONE NUMBER (Include Area Code) (205) 293-2483 — 22c. OFFICE SYMBOL

DD FORM 1473, 83 APR — EDITION OF 1 JAN 73 IS OBSOLETE. — UNCLASSIFIED

PREFACE

Major systems acquisition in the 80's continues to grow in complexity while becoming less responsive to user needs. This paper examines the current contracting practices followed in placing new programs, such as the Small ICBM Program, on contract and highlights proven ways to accelerate the process. As an additional benefit of tracking the Small ICBM Program from requirement generation through initial contract award, the paper provides a detailed historical record of the first year of the Small ICBM Program. This paper suggests proven techniques for acceleration to other program managers and acquisition professionals in hopes that they can also find a better, faster way.

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ABOUT THE AUTHOR

Major Robert S. Anderl holds both a Bachelor and Masters Degree in Business Administration from the University of Nebraska and the University of Montana, respectively. He received his Air Force commission through ROTC in 1971 and, subsequently, was assigned to duties as both a ground and airborne missile launch officer and instructor; a missile operations plans officer; an Education-with-Industry officer at Aerojet ElectroSystems Company; a contract negotiator and warranted contracting officer on the Peacekeeper and Advanced Strategic Missile System Programs; and, most recently, as a Space and Missile Systems Acquisition Staff Officer at Headquarters, Air Force Systems Command. As part of his last job, he performed as the Business Strategy Panel Secretary for the Small ICBM Program and as a member of the Small ICBM Source Selection Advisory Council. Major Anderl is an active member of the National Contract Management Association (NCMA) and a past chapter vice president. His professional dedication and efforts were recognized in 1981 by receipt of the Pony Express Award from the Southwestern Region of NCMA. Additionally, he holds a professional designation in contract management. He was the 1979 Ballistic Missile Office Company Grade Officer of the Year and one of the 1983 Outstanding Young Men of America. He attended Squadron Officer School in 1974 and is currently a member of the 1985 class at Air Command and Staff College.

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EXECUTIVE SUMMARY

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REPORT NUMBER 85-0105

AUTHOR(S) MAJOR ROBERT S. ANDERL, USAF

TITLE ACCELERATING THE CONTRACTING PROCESS--
A CASE STUDY OF THE SMALL ICBM PROGRAM

I. Purpose: To identify new or better ways to accelerate the contracting process and reduce administrative burdens by examining the methods used during the first year of the Small ICBM Program.

II. Problem: Contracting for major systems in today's Air Force is accomplished through a structured process based on public law and regulation. Increased emphasis on accountability of public funds has added additional reviews and approvals at all levels in the acquisition process. The result has been a general slow down in the ability of the acquisition professional to place new requirements on contract in a timely fashion. This paper examines the acquisition process and suggests ways to improve the responsiveness of the contracting community.

III. Data: In April 1983, the President's Commission on Strategic Forces recommended immediate initiation of a new Small ICBM Program. Subsequent endorsement by the President and Congress designated the program as having our country's "highest national priority." The Air Force was presented with the challenge of initiating this program on an accelerated basis with special emphasis on innovation

and competition. In September 1983, program direction was received officially directing program initiation. Over the next 9 months, 21 new contracts ranging in value from $2 million to $200 million were awarded. Seven different source selections were conducted involving 48 different contractors. During this time every effort was made to streamline the contracting process. Techniques used to accelerate the award of these contracts included limiting the scope of initial efforts, use of class D&F amendments, multi-phase approvals, verbal approvals, consolidation of requests, streamlined source selection procedures, contractor involvement, letter RFPs, flexible scheduling, and on-site contract reviews. These techniques resulted in the savings of weeks to even months over normal contracting schedules.

IV. Conclusions: The Small ICBM Program demonstrated that contracting lead times can be substantially reduced. Creative application of existing procedures by dedicated people reduced the average preparation, solicitation, evaluation, and award time of major systems contracts to under 5 months. When compared with a standard schedule of 9-12 months, the pay-off in both time and resources is substantial.

V. Recommendations: Other Air Force and DOD programs can benefit by employing similar methods to accelerate the contracting process. Documentation and dissemination of success stories such as the Small ICBM Program provide for a cross flow of ideas and challenge others to find a better, faster way.

Chapter One

A MATTER OF NATIONAL PRIORITY

INTRODUCTION

Air Force contracting in the 80's is busier and more complex today than ever before. In 1983 alone, the Air Force issued over 4.8 million contract documents as part of an unprecedented $40 billion modernization program (4:42). Increasing interest in government procurement by both the executive and legislative branches of the government has resulted in numerous proposals for acquisition reform. In 1981 former Deputy Secretary of Defense Carlucci's initiatives for improving the acquisition process attempted to reduce costs, make the acquisition process more efficient, increase stability, and decrease acquisition lead time for military hardware (12:1). In 1982, the Office of Management and Budget (OMB) recognized 18 common procurement problems which plagued the contracting process with delays, increased cost, and other inefficiencies (7:8). OMB responded with a proposal for a Uniform Federal Procurement System which was supported by the President in Executive Order 12352. Implementation of a single Federal Acquisition Regulation (FAR) in April 1984 was, in part, a response to this proposal. During the same period, Congress responded by adding to the over 4000 laws already in existence concerning acquisition. This last year alone found Congress considering about 140 additional laws impacting the acquisition process, but reform creates mixed results (1:36). General Robert T. Marsh (Ret), former Commander of Air Force Systems Command, commented:

> We're being bogged down amid a growing catalog of mandated procurement practices, inspections, and accountability processes that dilute the effort of highly skilled procurement professionals. Our people spend more and more time justifying, supporting, and responding to reports--time that is sorely needed to design effective acquisition strategies, to negotiate, and to oversee contractor performance (3:14).

As we look forward to the rest of the 80's and 90's, the Air Force acquisition community will continue to be challenged to do more with less, better, and faster. We must constantly look for new ways to get the most out of the time available to meet this challenge.

Acquisition reform provides only one way for the contracting process to become more efficient and less time consuming. OMB recognized that several items such as multilevel reviews, redundant management systems, regulations, and documentation burden the process. These items require resolution within the system. Savings found within the system can provide immediate pay-offs for the program manager and aquisition professionals in the form of shorter lead times and more effective use of resources.

The purpose of this paper is to study the initial acquisition actions of the highly successful Small ICBM Program, exploring the methods used to expedite contract actions and reduce administrative burdens by working within the system. The paper will look at the unique beginnings of the Small ICBM Program and the resulting acquisition actions; review the creation of the Small ICBM Program Office and the positive approaches taken to promote teamwork; address specific contracting actions and methods used to shorten the contracting process; and conclude with recommendations applicable to other Air Force programs.

THE SCOWCROFT REPORT

On 11 April 1983, the President's Commission on Strategic Forces published its recommendations for a strategic modernization program for the United States. The commission, headed by Brent Scowcroft and including some of the nation's leading experts on defense and arms control, examined the future of our ICBM forces and recommended various basing alternatives. The commission's report addressed numerous weapon systems in the strategic nuclear arsenal and, most important to this paper, included a recommendation for a new Small ICBM Program:

> Engineering design should be initiated, now, of a single warhead ICBM weighing about fifteen tons; this program should lead to initiation of full-scale development in 1987 and an initial operating capability in the early 1990's. Deploying such a missile in more than one mode would serve stability. Hardened silos or shelters and hardened mobile launchers should be investigated now (8:21).

This unique beginning for the Small ICBM served as the catalyst for the initiation of a new weapon system program requiring Congressional, OSD, and Air Force action and support. The commission's report, combined with the actions that followed, established a clear national need and sense of program urgency having both direct and indirect results on the acquisition cycle.

CONGRESSIONAL AUTHORIZATION

The Congressional process started almost immediately. On

19 April 1983, President Reagan endorsed the commission's report and asked Congress to modify the FY84 defense budget submission to bring it into conformity with the Scowcroft recommendations. The initial Congressional response to the Scowcroft recommendations took place on 26 May 1983 with legislation releasing Peacekeeper FY83 funding (9:1). In addition to the obvious impact on the Peacekeeper program, this action was perceived as a general endorsement of Scowcroft's total recommendations.

On 14 July 1983, Senator Glenn of Ohio submitted an amendment to the FY84 Authorization Act endorsing the Small ICBM as a matter of the highest national priority. Subsequently, the amendment was approved by unanimous consent. It stated:

> It is the sense of Congress that the design, development, and testing of the small, mobile, single warhead intercontinental ballistic missiles (ICBMs) be pursued as a matter of highest national priority. To achieve this objective, the administration should proceed without delay to engineering design of a small, single warhead ICBM capable of mobile deployment. Key elements of such a program which should be pursued immediately include missile design, guidance accuracy, hardened mobile transporter design, mobile basing and survivable Communication, Command and Control (C^3). Program emphasis should be consistent with past top national priorities such as Polaris, Minuteman, Apollo, and program management structure should also reflect such priority. The Department of Defense should set forth funding and production schedules consistent with the earliest possible Initial Operational Capability (IOC), at or prior to 1992, in its submission to Congress to authorize appropriations for fiscal year 1985 (6:85).

While additional amendments were sponsored and approved (like the Price amendment tying the development of the Small ICBM to deployment of the Peacekeeper weapon systems), they only served to increase the need for prompt contracting action and timely initiation of development activity. Final Congressional and Presidential action took place on the FY84 Authorization Act in September 1983 giving the Air Force a clear signal to move ahead.

ACQUISITION STRATEGY

Concurrent with this Congressional activity, the Air Force started planning activities to support initiation of the Small ICBM Program. As early as June 1983, HQ AFSC convened a business strategy panel to review the Ballistic Missile Office (BMO) proposal for initiation of an advanced development program for key technologies in support of the Small ICBM. While these

initial meetings ultimately proved premature, they surfaced several problem areas allowing time for review and resolution prior to official program go ahead. The most significant of these was the difference between the proposed Air Force plan to develop a full-size prototype missile versus the OSD concept of component development. As a result, agreement was reached to form an independent advisory group which would review acquisition strategies and provide recommendations by September 1983. Under the authority of the Air Force Scientific Advisory Board, a Small Missile Independent Advisory Group was formed and General Bernard A. Schriever (Ret) was named as chairman.

The Schriever group was "established in July 1983 to provide recommendations on the best Acquisition Strategy and Management Approach for the Small Missile Program" (10:i). The unanimous recommendations of the group were presented to OSD on 19 September 1983. While the details of the group's recommendations are quite lengthy (See Appendix 2), the central theme can be summarized as follows: "The Acquisition Strategy will focus on Innovation, Competition, Dual Sourcing, and 'Good Business'" (10:ii). Technically, this results in contracting for the Small ICBM in two parts--a "Baseline" system which takes maximum advantage of existing technology and several "Parallel Development" efforts for cost reduction and future improvements. Finally, the report concluded with a recommendation that, "The System Definition Phase should begin IMMEDIATELY, followed by a Pre-FSD Phase which begins in late 1984, and a FSD Phase which starts in 1986" (10:i).

PROGRAM DIRECTION

While detailed planning had been ongoing for some time, all Air Force programs require formal program direction prior to initiation of contracting activity. This point was made exceedingly clear by an interim Program Management Directive (PMD) issued from HQ USAF in July 1983. It stated:

> Initiate planning leading to engineering design of a small, single warhead ICBM. The planning should be geared toward technical and developmental considerations... This message does not constitute authority to commit, obligate or expend funds, except as authorized in appropriate procurement or program authorization (15:--).

On 14 September 1983, HQ USAF released final PMD guidance for the ICBM Modernization Program giving full go ahead for the Small ICBM Program. As stated therein, the PMD "initiates engineering design and demonstration for follow-on efforts including the small single warhead missiles, land-based vehicles, hard missile silos and shelters, and deep basing" (16:1). Receipt of this direction completed the second of three requirements essential in awarding government contracts: (1) Congressional funding, (2) program direction, and (3) procurement authority.

With this direction, the final requirement, procurement authority, could now be pursued.

CONTRACTING RESPONSE

Contract implementation became the number one priority after receipt of program direction. Funding and approval of the Schriever acquisition strategy laid the groundwork for obtaining procurement authority. On 27 September 1983, members from HQ AFSC and BMO established an implementation plan which would take maximum advantage of competition while expediting initial contract awards. Twenty-one competitive and two selected source efforts were identified for award between December 1983 and June 1984. (See Table 1-1.) Several of these contracts fell into the category of "Baseline" systems requiring contract award by December 1983. These contracts would ultimately provide the basis for future competitions concurrent with a fall 1984 Pre-FSD decision.

Contract schedules supporting December 1983 awards dictated that these efforts, classified as Research and Development (R&D), receive almost immediate authority to proceed. Normally, procurement authority would be granted at the Air Force Secretarial level (negotiation authority under Public Law 10 USC2304(A)(11)). Approval of this type averages between three and four months to obtain. It requires detailed support and numerous levels of review prior to being submitted for approval. Until approval is received, Request for Proposals (RFPs) are withheld, leaving another three to six months before contractor proposals are received, evaluated, and contracts awarded. Given these facts, the December 1983 Small ICBM awards could not be supported by normal contracting methods.

An alternative approach was proposed based upon a key factor not previously considered, the program's highest national priority. Under such circumstances, procurement law provides for local approval of negotiation authority bypassing the three-to-four month Secretarial approval cycle. This approval is accomplished under 10 USC2304(A)(2) (public exigency) and requires only that the contracting officer find the requirement necessary to fill an urgent need. Clearly the Presidential and Congressional mandates on this program substantiated the contracting officer's determination. As a result, RFPs were released on 21 October 1983 under local (A)(2) authority and the resulting contracts for missile integration and propulsion were awarded on 29 December 1983.

While these initial contract awards clearly demonstrate a substantial savings in contracting lead time attributable to the program's national priority, other indirect effects on the program cannot be ignored. All of the schedules presented in this paper to some degree reflect a savings attributable to the program's national priority. A recent study of other successful programs cited a sense of national urgency as one important

Description	Probable No. of Contracts	Est. Value ($M)	Need Date	Source
ICBM Superhard Silo Technology (ISST) Site Test Manager	1	20	Dec 83	Competitive
*Sys Def/Missile Integration (SD/MI)	4	5-7/Contract	Dec 83	Competitive
*Propulsion	4	5/Contract	Dec 83	Competitive
*Hard Mobile Launcher (HML)	4	5/Contract	Feb 84	Competitive
*G&C Integration	1	150	Apr 84	Competitive
Ring Laser Gyro	1	60	Apr 84	Competitive
Stellar Inertial Measurement Unit (SIMU)	1	60	Apr 84	Competitive
Maneuvering Reentry Vehicle (MARV)	1	275	Jun 84	Competitive
Terminal Fix System (TFS)	4	1.75/Contract	Apr 84	Competitive
*Advanced Inertial Reference Sphere	1	70	Apr 84	Selected Source
*G&C Technical Support	1	12.5	Dec 83	Selected Source
	23			

*Supports "Baseline" configuration

Table 1-1

SMALL MISSILE PROGRAM
CONTRACT ACTIONS

reason for program success. "Interestingly, time pressures often are a factor in stability and success. The reason--a clear national need. As a result, outsiders who might be inclined to dabble in the management of some project are less likely to do so" (2:32). While this factor cannot be quantified, it exists and cannot be overlooked.

These initial awards serve as only a small indication of the innovation and aggressive contracting displayed on this program. Clearly, national priority provides an incentive to the program which brings out the best, but it cannot account for the program's entire success. Therefore, let's continue to look deeper into the program office organization, management, and contracting methodology used on the Small ICBM Program in hopes of finding other keys to accelerate the contracting process.

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Chapter Two

ORGANIZATION THE KEY

"Program emphasis should be consistent with past top national priorities..., and program management structure should also reflect such priority" (6:85). This language, taken from the Glenn amendment, challenged the Air Force to create a program office and management structure capable of fielding a weapon system essential to our national security. The challenge was met head on and the results speak for themselves.

SCHRIEVER RECOMMENDATIONS

The Small Missile Independent Advisory Group, formed in July 1983, was chartered to provide advice and recommendations on the best management approach and organization for acquiring a new Small ICBM. Their recommendations provided the basis for the formation of a Small ICBM Program Office which would be "self-contained with all management disciplines required to run the program reporting directly to the Program Director" (10:ii). Additionally, management review and approval channels were to be streamlined (10:ii). These key elements were expanded upon in the body of the report as follows:

> The program office should consist of people experienced in all of the management disciplines required to run the program. Manning priority should permit name selection of key personnel. There should not be a matrix organization. Key people should work directly and full-time for the program director. This is especially important for the functions of contracting, engineering, program control, and subsystem management.
>
> Key cost and contract disciplines should be adhered to as the program progresses, for example: definitized contracts in accordance with program approvals (limited use of letter contracts and change orders); limitation of Government Obligation (LOGO) clauses to minimize internal USAF reprograming activities; and cost and schedule flexibility to handle unexpected problems. A strong cost management effort should be instituted to control costs and promote actions to reduce acquisition and life cycle costs.
>
> Top DOD and government priorities should be maintained for the life of the program. The program office should

> have full responsibility and authority for the program. Management review channels should be streamlined. Only the Commander of Air Force Systems Command, the Chief of Staff or Secretary of the Air Force, the Secretary of Defense, or his Undersecretary for Research and Engineering should be allowed to change established direction, requirements, or funding levels. Other staff organizations and individuals should be kept informed, but not be in the chain of command (10:19).

These recommendations were accepted at the highest levels of the Air Force and Department of Defense and provided the basis for the formation of a program office which has proved highly successful in its initial stages.

BMO RESPONSE

The Ballistic Missile Office (BMO) formed a small, but dedicated, cadre of people as early as May 1983 to support initial planning for the Small ICBM. With the acceptance of the Schriever recommendations, this small nucleus expanded to enhance the effective management of the initial program phases. The organization's ground rules, established by the BMO Commander, Major General Aloysius Casey, were:

> ...to define an organization which has the least impact on command structure while still providing a major SPO with an effective structure. In my judgment, that means providing dedicated support in Engineering/ Project Management, Program Control and Contracting... but retaining matrix support in Acquisition Logistics, Acquisition Support (Configuration Management, Quality, Reliability) and Deployment...For contracting, the procurement committee, manufacturing functions and policy level functions would remain at the staff level (18:1).

Subsequent modification of this approach included a Logistics/ Deployment Directorate resulting in the organization depicted in Figure 2-1 (19:1). Total manning by both civilian and military during this first year was 68. These 68 people supported an initial FY84 acquisition budget of approximately $500 million. Additional specialty information and support was provided through a systems engineering and technical assistance contractor on an as required basis.

While this organization provided the framework for success, the factors which made the program succeed require a more detailed understanding; an understanding that starts with the selection of the people. Schriever clearly stated in his group's recommendation that key people should be selected on a by-name basis and work directly for the program manager (10:19). This provided for specific individuals being selected for key positions

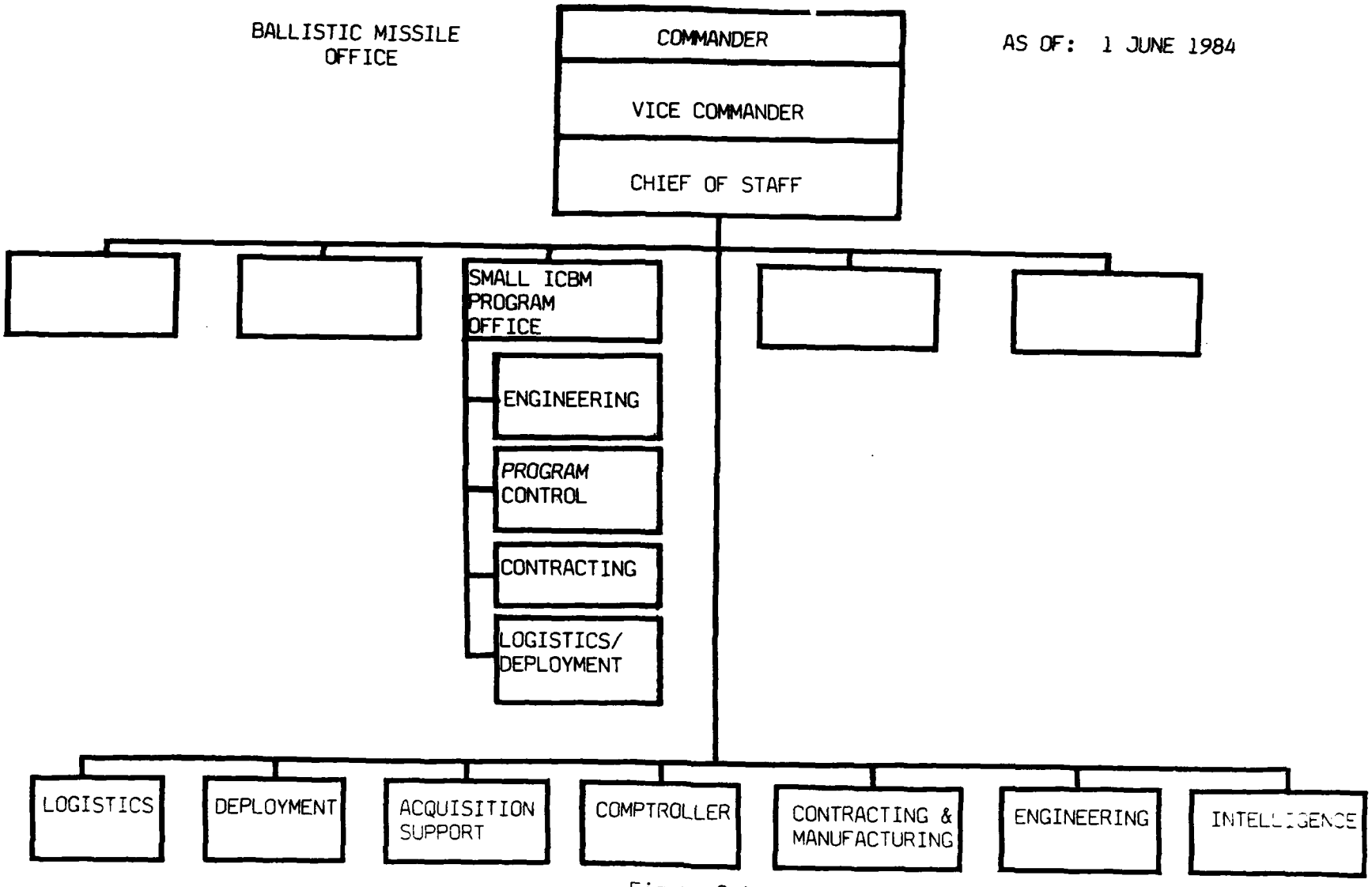

Figure 2-1

SMALL MISSILE
PROGRAM OFFICE ORGANIZATION

in the program office. As a result, a sense of confidence and backing was instilled in these people by upper level management. Shared planning and decision making was a natural outgrowth of this process which allowed people the autonomy to propose innovative solutions to complex problems. Final decisions had the support and commitment of all.

Just as there was free and open exchange of information internally, the same atmosphere carried over to external agencies. The general approach was to involve outside agencies early and keep them informed. Outside agencies such as the Small ICBM Steering Group, a group formed on the basis of another Schriever recommendation and accountable to the Chief of Staff, responded to this environment in their first meeting by stating:

> ...the purpose of the group is to expedite the acquisition process for the Small Missile. The group was not meant to pre-empt, stifle or interfere with normal staff activities, nor to create additional bureaucratic layers of sub-panels or working groups. Further, when the group has achieved its goals, it would disband (14:1).

In addition to the Small ICBM Steering Group, other high level Air Force Secretariat and HQ USAF personnel constantly interfaced with program office personnel through business strategy panels and source selection activity. The Secretariat publically acknowledged the "positive, open working relationship that exists with BMO" (17:3) as a major contributor to the success of the program.

CONTRACTING IMPACT

As already noted, the Small ICBM Program was initiated with a small, but dedicated, cadre of people. While "lean and mean" organizations improve communication and promote cooperative relationships, it limits the program office's ability to process a high volume of contracts (21) over a short period of time. In this type of environment, prioritization of requirements becomes essential. In the case of the Small ICBM Program, this process was aided somewhat by the technical distinction between "Baseline" and "Parallel Development" requirements. Baseline requirements received priority allowing the preparation of staggered contracting schedules to create almost a factory-line approach. In this highly charged environment, close coordination between the technical and contracting community allowed concurrent creation and processing of technical requirements and contract approvals. The result was simultaneous processing of contracts at various stages of completion versus sequential processing of fully completed actions. RFPs were staggered in their release between October 1983 and January 1984. Resulting contracts were awarded starting in December 1984 and running through May 1984. Figure 2-2 provides a simplified view of this process.

SICBM PROGRAM
CONTRACT ACTIVITIES SUMMARY

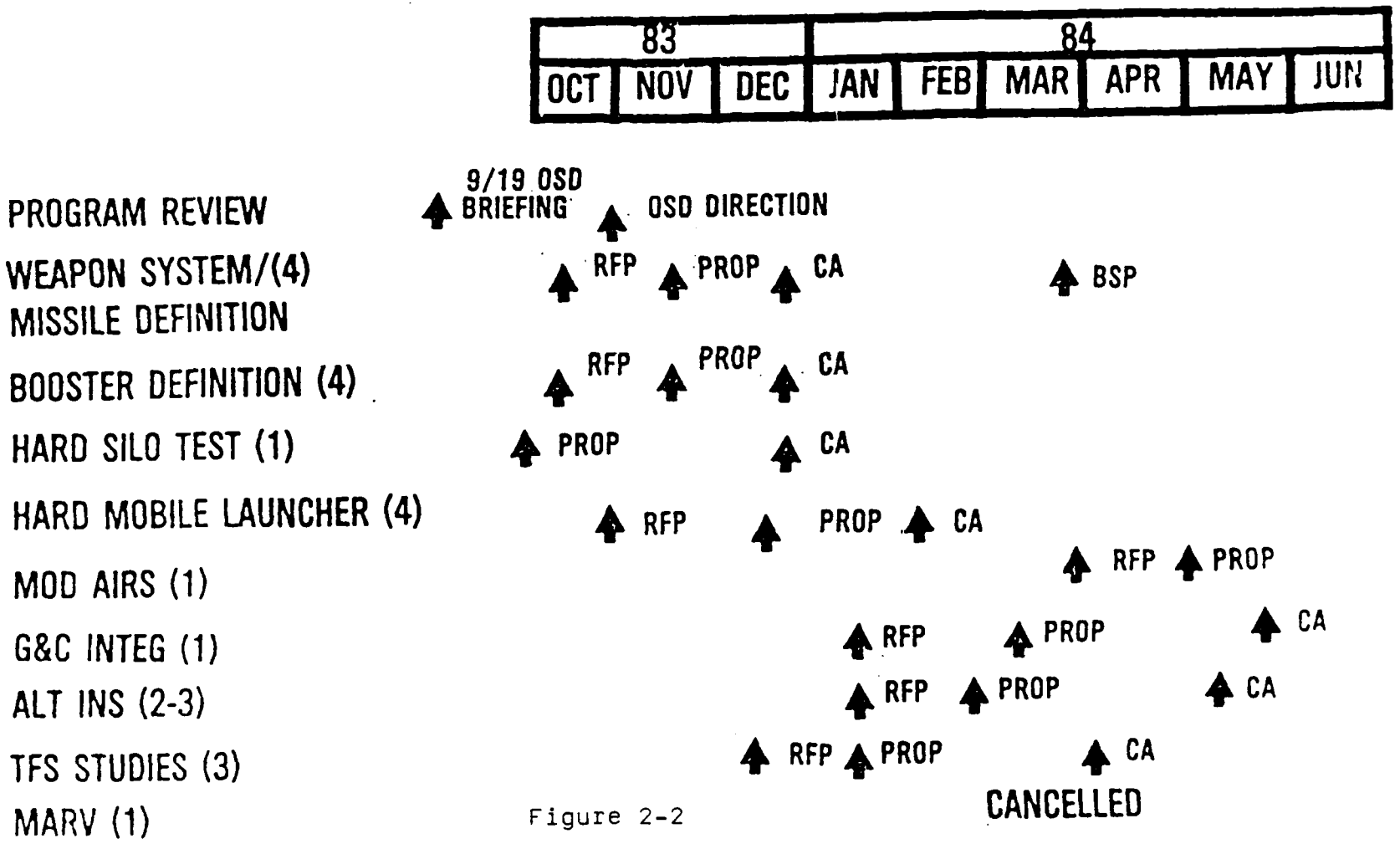

Figure 2-2

SICBM PROGRAM
CONTRACT ACTIVITIES SUMMARY

In considering the magnitude of the task at hand, one must also remember that the majority of the contracts planned were competitive awards. Of the initial 21 competitive awards planned, eight source selections were involved. Six of these required Secretarial and HQ USAF review or participation. The bottom line was a potential of 18 separate meetings over an eight month period requiring travel between Washington DC and Norton AFB, CA. Therefore, consolidation of requirements and flexible scheduling became a critical factor in maximizing the utilization of both limited program office manning and mandatory SAF participation. Careful planning prevented several potential show stopping situations from occurring.

The final factor appropriate for discussion here is the positive task oriented atmosphere created by the program office. A recent study on successful programs commented, "We spend more time trying to avoid mistakes, than if we made mistakes. Time is money" (2:36). This statement implies that there is a definite trade off between the risk of a mistake and acquisition lead time. A specific example from the Small ICBM Program comes to mind, i.e., a protest before award was made on one of the contracts in source selection. Normal procedure would have withheld award until after the protest was reviewed by the Comptroller General, resulting in a significant program delay. There is a procedure, however, which allowed BMO to make the award in face of the protest. This option involved some risk, but prevented the entire program from being stopped dead in its tracks. In the case of the Small ICBM Program, the risk was accepted and over eight months saved. Contract award was made in February 1984 and the final Comptroller General decision upholding the award was received in November 1984. Clearly the success orientation of the program office resulted in prevention of a major delay in the acquisition schedule.

Management's approach to program office organization clearly held keys to promoting teamwork, flexibility, and open communication. This ultimately resulted in accelerating the contracting process. Good people, innovative scheduling, and decision making have proven themselves essential ingredients of the Small ICBM Program's success.

Chapter Three

SHORTENING THE CONTRACTING PROCESS

Initiative and innovation, whether applied to a program's management structure or a formalized process such as major systems contracting, can provide meaningful results. This chapter takes a critical look at the contracting process and searches for ways to save time and resources.

REVIEWING THE PROCESS

Contracting for major systems in today's Air Force is accomplished through a structured process based on public law and regulation. The process attempts to provide for tomorrow's needs by enlisting the productive capabilities and advanced technology available in hundreds of companies, both large and small, through government contracts. While satisfying service needs has a high priority (in the case of Small Missile the highest national priority), the contracting community must also act as stewards of the tax dollar ensuring that public funds are spent wisely. Because of this, the acquisition process is filled with multiple layers of mandatory reviews and approvals starting at the Secretary of the Air Force level and flowing down. The challenge then, in placing a new program on contract, is to understand which reviews and approvals must be accomplished and work to obtain them in the shortest possible time.

Each new program must be analyzed separately to determine individual contract requirements. In the case of major programs such as the Small ICBM (or any other new program estimated to require over $100 million in Research, Development, Test, and Evaluation (RDT&E) funds) a Business Strategy Panel (BSP) will be convened at the earliest possible date to discuss acquisition strategies, make available lessons learned from other acquisitions, and to suggest strategies that best satisfy program requirements and objectives (11:7). The BSP is chaired by the MAJCOM responsible for the program's acquisition. Representatives from the Secretariat, Air Staff, and other commands are invited to attend insuring early participation by other parties involved in the review, approval, and implementation process. Once a strategy is defined, it becomes the program office's responsibility to convert strategy into reality.

Even though the program office has ultimate responsibility for the success or failure of the program, numerous other parties become involved along the way. Participation is often determined by the type of items being acquired (R&D versus supplies and services), the estimated value of the contracts, and the competitive nature of the acquisition. In general, as the value of the acquisition increases or the competitive environment changes, the participants in the review and approval process increase from members of the program office up through and possibly including the Secretary of the Air Force. Additionally, reviews and approvals span the entire contracting cycle from initial definition of a business strategy, to the release of the Request for Proposal (RFP), to the final contract award. Table 3-1 summarizes many of the higher headquarters reviews and approvals required to support a major weapon system contract award. While the list is not all inclusive, it depicts the complicated process which must be followed prior to contract award.

Intertwined through the acquisition process is a second set of interfaces which the program office maintains with industry. The program office defines and communicates its needs to industry through the RFP. In turn, industry responds with proposals and justification communicating their solutions. These proposals are evaluated for content, along with an assessment of a firm's capability to perform, and ultimately result in the selection of a winning contractor(s). Assisting the program office in its evaluation are the Defense Contract Audit Agency (DCAA), Defense Contract Administration Service (DCAS), the Department of Labor, Air Force Contract Management Division (AFCMD), and others. Each of these agencies provides an input to verify the reliability and accuracy of information presented in the contractor's proposal. Just as in the contract approval process, these reviews are governed by law and regulation further complicating the process.

While the acquisition process is full of checks and double checks, reviews and approvals, it provides a sound basis for the negotiation, award, and management of government contracts. Attempts to increase efficiency and reduce lead times through acquisition reform at all levels have been slow in coming and in some cases counter productive. A more practical solution, capable of affecting weapons being developed today, lies in aggressive and creative contracting within the current system. Many of the procedures already existing can be tailored to provide real savings in both time and resources. Standard schedules of 9-12 months for major acquisitions must be challenged and examined in detail. The potential pay-off for the Air Force, contractors, and the public will be shorter lead times and more effective use of resources.

Demonstration that this type of approach works is available through the examination of the first year of the Small ICBM

Action	trigger or threshold	level of review or approval	estimated processing time required for approvals*
Business Strategy Panel (BSP)	$100M R&D $500M Production	MAJCOM with SAF & Air Staff participation	N/A
Delegation of Source Selection Authority (SSA)	Recommendation of BSP	SAF/OS	60-90 days
Negotiation Authority (D&F)	$5M per contract	SAF/AL	90-120 days
Technical Program Plan (TPP)	$1-5M per contract	SAF/ALR	60-90 days
Contract Strategy Paper (CSP)	$100M $25M-100M	AFSC/CC AFSC/PM	30-45 days
Solicitation Review Panel	High interest programs	AFSC/PM staff	N/A
RFP briefing to Source Selection Advisory Council (SSAC)	Programs where SSA delegated by SAF	Secretariat, Air Staff and MAJCOM representatives	N/A
Competitive Range Briefing	"	"	N/A
Source Selection Decision Briefing	"	"	N/A
Contract Manual Approval	$25M	AFSC/PM	10 days

*estimates are based upon author's personal experience as HQ AFSC Systems Acquisition Staff Officer

Table 3-1

HIGHER HEADQUARTERS CONTRACTING REVIEWS OR APPROVALS

Program. This program provides examples of positive results achieved by aggressive and creative contracting within the system. The remainder of this chapter will examine the Small ICBM Program contract requirements, look at the short cuts taken to accelerate contracts through the system, and summarize the results.

EXAMINING THE REQUIREMENTS

"The acquisition strategy will focus on Innovation, Competition, Dual Sourcing, and 'Good Business'" (10:ii). This strategy became reality through the effort, cooperation, and innovative application of existing contracting methods by the Small ICBM Program Office. Twenty-one new contracts were awarded between December 1983 and May 1984, a period of less than nine months from the receipt of initial program direction. From the initial Business Strategy Panels (BSPs) to the award of the 21st contract, the goal was to streamline the process. BSPs held on each of the four major segments of the program, the Hard Mobile Launcher, Guidance, Boosters, and Weapon System Integration, helped to establish priorities and create consensus prior to pursuing contract approvals. The scope of the majority of these contracts was limited to concept definition. Several efforts required immediate initiation to support follow-on Pre-FSD contracts in late 1984. Seven different source selections were conducted resulting in the award of 20 separate contracts ranging in value from approximately $2 million to $200 million. Forty-eight separate contractors expressed interest in competing for these contracts, with 16 of them ultimately being selected. A detailed listing of these awards can be found in Appendix C. In several cases, multiple contracts were awarded for definition of the same requirement ensuring future competition and a dual sourcing potential.

Since the majority of the contracting activity centers around these initial source selections, a more detailed review of the seven reveals the specific challenges faced. Each source selection varied in value and complexity and covered the entire range of the review and approval process. Some required only local review and approval, while others received higher headquarters review and approval at every step along the way. Table 3-2 provides a more graphic illustration of the approval requirements. In every case, whether the contracts required higher headquarters review or not, actions were taken to streamline the source selections and shorten the contracting process.

Contract	BSP	SSA Delegation	D&F or TPP	CSP	Manual Approval
Hard Mobile Launcher (HML)	X	X	X	--	--
Weapon System Definition	X	--	--	--	--
Booster Definition	X	--	--	--	--
ICBM Superhard Silo Technology (ISST)	--	--	--	--	--
Guidance & Control Integration (G&CI)	X	X	X	X	X
Alternate Inertial Navigation System (AINS)	X	X	X	X	X
Terminal Fix Sensor (TFS)	X	--	X	--	--

NOTE: An eighth source selection for the Maneuvering Reentry Vehicle (MARV) was cancelled in April 1984. The BSP, SSA delegation, D&F, and CSP were all processed prior to program cancellation.

Table 3-2

SMALL ICBM HIGHER HQ REVIEWS AND APPROVALS

SHORT CUTS THROUGH THE SYSTEM

Someone once said, "Time stops for no man." In pursuing the goal of accelerating the contracting process, it is essential that each day be accounted for. Each element of the process must be managed to maximize the final result. A day here, a week there, will ultimately result in streamlining the process. The Small ICBM Program attempted to find and save those days and weeks as it proceeded through its acquisitions. The next few paragraphs examine the Small ICBM Program, highlighting areas where savings were found.

Limited Scope of Initial Efforts--Definition of initial requirements are critical when considering their impact on the review and approval process. In the case of the initial Weapon System and Booster Definition contracts, initial proposals were limited in the RFPs to $5 million efforts. While follow-on Pre-FSD efforts would be much larger and require both Secretarial delegation of Source Selection Authority and D&F coverage, initial efforts would be pursued under a local (A)(2) D&F based

on the program's national priority. Additionally, the $5 million dollar limit did not exceed thresholds for CSP or contract approval, essentially eliminating all headquarters reviews. The program office did, however, agree to review the entire business strategy as soon as possible following initial contract awards. Subsequently, BSPs were conducted in March and June 1984. The result was program direction in September 1983 and contract award in December 1983, only three months after program go ahead. Estimated acceleration over standard time is at least 5 months.

Class D&F and Amendments--Previous mention has already been made of the staggered contracting schedules creating almost a factory-line approach. This concept carried over into processing required approvals for the program. BMO's initial Acquisition Plan for FY84 discussed "the common aspects of the total Small ICBM Program", but only "specifically details the individual requirements for the hard mobile launcher. The individual plan for the small missile and guidance technology improvement effort will be submitted as the requirements are better defined" (20:iv). This approach provided the Secretariat with an overall view of the total program, but requested approval for only defined requirements (i.e., HML). Subsequently, Amendment 1 was submitted for approval of the guidance program. The result was formal decision making based on solid requirements allowing release of the HML RFP two months earlier than the guidance RFPs. Processing time for both the basic D&F and Amendment 1 was 51 days, a considerable savings over the estimated norm of 90-120 days.

Multi-phase Approvals--Both the D&F and the delegation of Source Selection Authority (SSA) contained language authorizing the Concept Definition and Pre-FSD phases of the program. By obtaining approval for both phases, RFPs contained language requesting follow-on contract proposals, eliminating the requirement for duplicative requests less than nine months later. While there are no specific savings attributable to the initial contracts, resource savings are attributable to the elimination of later submissions required during this critical period. As a result, additional D&Fs and SSA delegations are not required for HML or guidance efforts until the planned 1986 FSD contracts.

Verbal Approvals--Delegation of Source Selection Authority requires approval by the Secretary and subsequent redelegation by the Chief of Staff and the AFSC Commander. Since the request for delegation flows up through the same offices as the redelegation coming back down, considerable time was saved by acting on verbal redelegation approval. Once the delegation was signed by the Secretary, RFPs were released based on verbal approval. Written redelegation was received through channels some 9 to 14 days later. This allowed for release of RFPs one to two weeks faster than by following normal methods.

Consolidation of Requests--The Small ICBM Guidance Program

contained three efforts over the $100 million threshold requiring AFSC/CC approval of contract strategy. These efforts were consolidated into a single package for processing, thereby reducing the volume of packages flowing through HQ AFSC for review. The single package provided a more complete picture of the total guidance program and simplified staff review. Processing time took two weeks rather than the normal 30 days for review.

Streamlined Source Selection Procedures--BMO developed a streamlined source selection process which reduces proposal size, minimizes manpower requirements, and shortens the time for competitive procurements. The process emphasizes seven features which include: reduced number of evaluation factors eliminating unnecessary detail for decision making; page limited proposals (100 page max.) for technical and management; strict compliance in evaluating only page limited material; reduced size and complexity of evaluation board members (25 max.); expanded evaluator responsibility to include reading and evaluation of the entire proposal; added contractor presentations factored into the final evaluation; and, a shortened evaluation period of 9 weeks from receipt of contract proposals (22:--). The results obtained from the seven Small ICBM source selections were substantial. (See Appendix D.) On the average, nine factors were evaluated with proposals averaging 92 pages. The average evaluation team required 18 people working just under nine weeks. Compared with previous BMO source selections, this is a savings of time and manpower between 25 and 50 percent.

Contractor Involvement--Starting with the Schriever Advisory Review Group and carrying through the source selection process, the Air Force maintained an open dialogue with industry. Schriever requested and received briefings on technology issues from four of the leading defense contractors prior to submission of the advisory group's report. The program office twice held (October 1983 and January 1984) industry briefings on program requirements to insure industry was kept informed as requirements were being generated. Contractor response to these briefings was extremely positive with over 139 industry representatives from 48 different companies attending a single meeting. This open dialogue directly contributed to both the quality of the contractors' proposals as well as industry's prompt responses to RFPs. The average proposal took just over 30 days to prepare, with two of the source selections requiring proposals in under 25 days. Additionally, BMO used oral discussions with the contractors during source selection to enhance the evaluation process. These actions contributed to BMO's ability to complete two source selections within 62 days after RFP release and achieve a composite average of 95 days to contract award. Although one protest was received in response to the seven source selections, BMO's award was upheld by the Comptroller General.

Letter RFPs--Limited use was made of letter RFPs on the

Booster definition and Weapon System definition efforts. These RFPs (each approximately 15 pages in length) minimized government boiler plate and simplified contractor review of the government's requirement (21:--). While not recommended for broad use, they did provide a standard format to release requirements to industry. BMO's preparation took less than a month after receipt of program direction and led to contract awards only two months later.

Flexible Scheduling--The large number of source selections held over this short period created numerous scheduling conflicts in attempting to insure Secretarial and Air Staff participation. Several actions were taken to minimize the impact including multiple source selections being briefed at a single meeting, program office hosting of BSPs, and review of draft RFPs with telephonic input to SSA. Additionally, the Secretariat elected to waive participation in numerous competitive range briefings. Scheduled meetings were also coordinated with Space Division to consolidate west coast trips of Secretariat personnel. The cooperative attitudes of all parties involved allowed source selections to proceed with minimum interruption and avoiding costly delays. Travel time and personnel resources were optimized allowing timely support of program requirements.

On-site Contract Review--AFSC provided on-site procurement committee review of Small ICBM contracts prior to award. This was particularly useful in source selections where multiple awards were planned. In these cases, review was done concurrently with SPO Procurement Committee review. Contract file discrepancies were resolved on a real time basis with knowledgeable program office personnel. Contract approval files were prepositioned at HQ AFSC to permit manual approval on an expedited basis. Estimated savings in review and mailing time was approximately 10 days.

SUMMARIZING THE RESULTS

The contracting process is a dynamic environment which requires careful planning and constant attention to detail. The acquisition professionals involved in the Small ICBM Program looked for and found ways to squeeze days and even weeks out of the acquisition schedule. Since many of the contracting actions previously discussed are overlapping by nature, a pure quantitative measure of the time and resources saved cannot be compiled. Even so, experienced individuals should recognize that the following Small ICBM Program figures represent substantial savings over normal acquisitions.

Number of contracts awarded in six months	21
Individual contract values	$2-200 million
Source Selections	7
Average D&F processing time	51 days
Average solicitation, evaluation, and award time	95 days
Average evaluation team	18 people
Average proposal size	92 pages

Table 3-3

SMALL ICBM PROGRAM RESULTS

Based on these results, the Under Secretary of Defense for Research and Engineering commended the program stating, "My congratulations to all those responsible for completing all the Small ICBM contractual actions on schedule" (13:--). Schedule, that's what it's all about. Doing more with less, better and faster--responsive contracting meeting program requirements.

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Chapter Four

SAVING TIME -- IT'S IN YOUR CONTROL

Otto von Bismark once said, "Fools you are to say you learn by experience. I prefer to profit by others' mistakes to avoid the price of my own" [5:7]. Just as Bismark profited from others' mistakes, we can also profit by studying the success of others to gain some time of our own. The Small ICBM Program provides such an example. This program demonstrates both time and resources can be saved by working within the system without procurement reform. Aggressive, creative people pursuing a common goal can accelerate the contracting process and achieve meaningful results. Let's take one final look at the Small ICBM Program to see if the acceleration procedures used here can apply to acquisitions under other program managers' control.

PROCEDURES VS POLICIES

A review of current acquisition regulations will leave you with an endless list of mandatory "procurement practices, inspections, and accountability processes" [3:14] which can slow down and delay the contracting process. Someone always seems ready to cite by chapter and verse why something cannot be done. The key to accelerating the contracting process lies in the creative application of what can be done, not in wasting time over what can't be done. For instance, no regulation told BMO to limit the scope and value of the initial "baseline" contracts to avoid multiple reviews and approvals, or to modify standard source selection procedures; yet these actions resulted in savings of both time and resources. The point is, that by proposing solutions in the middle ground between what is specifically prohibited and what is required, they found a better, faster way. It means stretching the system by taking authority where it is not specifically granted and working in the system to your maximum advantage.

Using this approach, any or all of the short cuts used on the Small ICBM Program can be applied to other programs. The short cuts included limiting the scope of initial efforts, class D&Fs and amendments, multi-phase approvals, verbal approvals, consolidation of requests, streamlined source selections, contractor involvement, letter RFPs, flexible scheduling, and on-site contract reviews. Remember in using these techniques it doesn't cost

anything to ask, so be aggressive. You have precedent on your side.

PERSONNEL COMMITMENT AND TEAMWORK

Aggressive planning, cooperation, and teamwork are the binding ingredients we add to transform creative ideas into reality. Good people working together always play a key role. The Small ICBM Program was given the opportunity to hand pick key individuals. The program had the backing and support afforded a program of the "highest national priority." There is no doubt that these factors contributed to the successful accomplishments of the program. Even so, the short cuts discussed here can provide pay-offs to other acquisition programs and professionals. BMO, itself, has used these procedures on other source selections and contracts with similar results.

Thomas Edison once said, "There's a better way to do it--find it" (5:7). The Small ICBM Program found a better way. The program focused on "Innovation, Competition, Dual Sourcing and 'Good Business'" (10:ii). This paper has attempted to summarize the key contracting innovations and pass them on to you. It's up to you now to save the time--it's in your control.

APPENDICES

Appendix A -- Glossary

Appendix B -- Small Missile Advisory Group Executive Summary

Appendix C -- Small ICBM Contracts

Appendix D -- Source Selection Results

GLOSSARY

BMO	Ballistic Missile Office
BSP	Business Strategy Panel
CSP	Contract Strategy Paper
D&F	Determination and Finding
DOD	Department of Defense
FSD	Full Scale Development
G&C	Guidance and Control
HML	Hard Mobile Launcher
ICBM	Intercontinental Ballistic Missile
IOC	Initial Operational Capability
ISST	ICBM Superhard Silo Technology
LOGO	Limitation of Government Obligation
MAJCOM	Major Command
MARV	Maneuvering Reentry Vehicle
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
PMD	Program Management Directive
R&D	Research and Development
RDT&E	Research, Development, Test, and Evaluation
RFP	Request for Proposal
SAF	Secretary of the Air Force

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SD/MI	System Definition/Missile Integration
SIMU	Stellar Inertial Measurement Unit
SPO	System Program Office
SSA	Source Selection Authority
SSAC	Source Selection Advisory Council
TFS	Terminal Fix System
TPP	Technical Program Plan

EXECUTIVE SUMMARY (Extracted from the Report of the Small Missile Independent Advisory Group)

A Small Missile Independent Advisory group was established in July 1983 to provide recommendations on the best Acquisition Strategy and Management Approach for the Small Missile Program. The Advisory Group was chaired by retired Air Force General Bernard A. Schriever.

CONCLUSIONS AND RECOMMENDATIONS

1. The Small Missile Program, with missiles deployed in hard mobile launchers on DoD land in peacetime, makes sense operationally and technically. However, the performance and operational requirements pose significant technical, operational, and logistical challenges. Therefore, achieving a 1992 IOC will require both a program and a management approach as outlined in this report.

2. The main thrust of the Small Missile program should be the Development, Production, and Deployment of a "Baseline" System which derives its configuration from:

   A. Competitive missile designs selected from the System Definition Phase and refined during the pre-FSD Phase.

   B. The Lightweight Advanced Inertial Reference Sphere (AIRS) self-contained guidance subsystem.

   C. The MK-21 Reentry Vehicle.

   D. Competitive Propulsion designs selected from the Small Missile System Definition Phase. An immediate propulsion improvement program should be initiated.

   E. Competitive Hard Mobile Launcher designs selected from the System Definition Phase and refined during the pre-FSD Phase.

   F. Internal C^3 designs between Small Missile field elements selected from the System Definition Phase and based on today's ICBM C^3 architecture.

   G. External C^3 links with the National Command Authority based on expansion of today's Peacekeeper C^3 System.

   H. Total System Designs derived from the System Definition Phase.

3. The System Definition Phase should be initiated IMMEDIATELY, followed by a Pre-FSD Phase which begins in late 1984, and a FSD Phase which starts in 1986.

4. In addition to the "Baseline" Small Missile Program, a "Parallel Development" program should be initiated for the development of alternative Navigation and Guidance subsystems to include Manuevering Reentry Vehicles (MARVs), Ring Laser Gyro, GPS, Stellar, and Terminal Fix systems.

5. There must also be special design emphasis on innovative and new concepts to minimize operational and security manpower associated with Mobile Nuclear Systems.

ACQUISITION STRATEGY

1. The Acquisition Strategy will focus on Innovation, Competition, Dual Sourcing, and "Good Business." This is achieved by a three-phased approach.

   (1) System Definition Phase

   Maximum contractor competition and participation in System Definition and Integration, Propulsion, Guidance, and Hard Mobile Launchers.

   (2) Pre-Full Scale Development (Pre-FSD)

   Down select to at least two Missile Integration Contractors and two contractors on each subsystem. Where only one contractor is available, a second source would be developed during the Pre-FSD Phase if appropriate.

   (3) Full Scale Development (FSD)

   Down select to one Missile Integration Contractor. Where desirable and affordable, retain two suppliers for subsystems.

MANAGEMENT

1. The Ballistic Missile Office (AFSC/BMO) should have Overall Weapon System responsibility and authority and be the Total Weapon System Integrator in accordance with past ICBM management policy and procedures.

2. The Small Missile System Program Office should be a Major program office headed by an experienced and qualified General Officer.

3. The Small Missile Program Office should be self-contained with all management disciplines required to run the program reporting directly to the Program Director.

4. A Requirements Group chaired by a "3-Star" HQ USAF General Officer should be formed immediately to develop a preliminary "Operational Concept" and firm up the program Baseline. This group should phase out in 1985.

5. Management review and approval channels should be streamlined.

SMALL ICBM CONTRACTS
Baseline Efforts

CONTRACTOR/CONTRACT NO.	EFFORT	POP	FACE VALUE	COMPETITIVE/ SELECT SOURCE
Boeing Aerospace 84-C-0009	Weapon System Definition	22 Dec 83- 30 Sep 84	4.999 mil	Competitive
McDonnell Douglas 84-C-0010	Weapon System Definition	22 Dec 83- 30 Sep 84	4.998 mil	Competitive
General Dynamics 84-C-0012	Weapon System Definition	22 Dec 83- 30 Sep 84	5.0 mil	Competitive
Martin Marietta 84-C-0013	Weapon System Definition	22 Dec 83- 30 Sep 84	4.998 mil	Competitive
United Technologies 84-C-0014	Booster Definition	22 Dec 83- 31 Dec 84	4.650 mil	Competitive
Morton Thiokol 84-C-0015	Booster Definition	22 Dec 83- 31 Dec 84	5.036 mil	Competitive
Aerojet 84-C-0016	Booster Definition	22 Dec 83- 31 Dec 84	5.369 mil	Competitive
Hercules 84-C-0017	Booster Definition	22 Dec 83- 31 Dec 84	5.033 mil	Competitive
General Dynamics 84-C-0034	Hard Mobile Launcher- Phase I	28 Feb 84- 31 Dec 84	5.0 mil	Competitive
Boeing Aerospace 84-C-0037	Hard Mobile Launcher- Phase I	28 Feb 84- 31 Dec 84	4.998 mil	Competitive
Bell Aerospace 84-C-0038	Hard Mobile Launcher- Phase I	28 Feb 84- 31 Dec 84	4.474 mil	Competitive
Martin Marietta 84-C-0039	Hard Mobile Launcher- Phase I	28 Feb 84- 31 Dec 84	4.997 mil	Competitive
Henry J. Kaiser Co 84-C-0011	ISST Site Contractor	3 Jan 84- 1 Dec 84	13.051 mil	Competitive

SMALL ICBM CONTRACTS
Baseline Efforts

CONTRACTOR/CONTRACT NO.	EFFORT	POP	FACE VALUE	COMPETITIVE/ SELECT SOURCE
Charles Stark Draper 84-C-0042	Guidance & Control Technical Support	2 Apr 84- 1 Apr 85	12.500 mil	Selected Source
Rockwell Int, Autonetics 84-C-0061	Guidance & Control Integration	25 May 84- 31 Mar 88	197.223 mil	Competitive
	Parallel Development			
General Electric 84-C-0054	Alternate Inertial Navigation System (AINS)	14 May 84- 30 Sep 87	60.409 mil	Competitive
Honeywell 84-C-0056	Alternate Inertial Navigation System (AINS)	14 May 84- 30 Sep 87	75.638 mil	Competitive
Litton 84-C-0057	Alternate Inertial Navigation System (AINS)	14 May 84- 30 Sep 87	87.125 mil	Competitive
Goodyear 84-C-0047	Terminal Fix Sensor Development	3 Apr 84- 3 Feb 85	1.700 mil	Competitive
Lockheed 84-C-0044	Terminal Fix Sensor Development	3 Apr 84- 3 Feb 85	1.698 mil	Competitive
McDonnell Douglas 84-C-0045	Terminal Fix Sensor Development	3 Apr 84- 3 Feb 85	1.956 mil	Competitive

PROGRAM TITLES

ISST	=	ICBM SILO SUPERHARDENING TECHNOLOGY TEST PROGRAM
WEAPON SYSTEMS	=	SICBM WEAPON SYSTEM DEFINITION
PROP	=	SICBM PROPULSION DEFINITION
HML	=	SICBM HARD MOBILE LAUNCHER
TFS	=	TERMINAL FIX SENSOR
AINS	=	SICBM ALTERNATE INERTIAL NAVIGATION SYSTEM
G&CI	=	SICBM GUIDANCE & CONTROL INTEGRATION

SOURCE SELECTION RESULTS

PROGRAM	ISST	WEAPON SYSTEM	PROP	HML	TFS	AINS	G&CI
DOLLARS (M)	80	80	80	100	5	311	307
FACTORS	9	8	8	18	7	7	8
PAGES	25	45	60	90	125	150	150
PERSONNEL	13	8	8	26	15	29	29
EVALUATION TIME (WKS)	12	5	5	6	11	12	10

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