AN EVALUATION OF SOURCE SELECTION COST PROPOSALS:

THE AIR FORCE TRAINING SYSTEMS SPO PERSPECTIVE

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ABSTRACT

The emphasis at Aeronautical Systems Division (ASD) is to execute a source selection without discussions or written communication, i.e., deficiency requests, clarification requests, or best and final offers. This initiative to conduct a "streamlined" source selection demands the receipt of quality cost proposals. However, the requisite quality has not always been present for recent training system source selections.

Each Training Systems Request for Proposal (RFP) results in the receipt of a wide variety of cost proposals. Some provide much more documentation/information than can possibly be evaluated under the streamlined process while others are deficient or noncompliant as to content or procedures. A common problem is the application of the full (production) funding concept.

The move away from discussions and deficiency reports makes it essential for the offeror to submit a properly structured cost proposal on the first submission. This paper will describe the key elements of a minimally acceptable cost proposal and the make-up and operation of the source selection cost panel. An analysis of past source selection cost proposal deficiencies will be provided along with examples and corrective actions. These past deficiencies come from the historical records of training system deficiency and clarification requests sent out by ASD along with the personal experiences of many cost panel chairmen. The intent of this paper is not to decrease or increase the official government requirements but to give insight on how these requirements can be met in an efficient and sensible way. Our desire is to communicate this information in order that offerors will not repeat past mistakes.

INTRODUCTION

The AF's Training Systems System Program Office (SPO) at Wright-Patterson AFB, Dayton, Ohio, is responsible for most of that site's training systems source selections. Recent source selections include the SOF Aircrew Training System (ATS), C-141 ATS, C-17 Maintenance Training Devices (MTD), Courseware Development, and C-17 ATS. When fully exercised, these contracts will total 1.5 billion dollars. Within the Training Systems SPO, the Directorate of Program Control either leads or is a team member on each source selection cost panel, evaluating the contractors' costs and briefing the results to the source selection authority. In addition, the Program Control office writes the cost section of each RFP, spelling out for industry the instructions for preparing cost proposals. Needless to say, the source selection period is an extremely active time. For the cost team, it is never without surprises and a certain number of setbacks. From first opening the proposals in an attempt to determine if everyone is within budget, to sifting through thousands of pages of bidder documentation, to preparing final briefing charts in anticipation of all the possible Source Selection Authority (SSA) questions, source selection has few idle moments. For the bidders, the rush to complete the proposal and, once submitted, to respond quickly to AF inquiries produces equally busy times. With this flurry of activity on both sides, it is little wonder that there is scant communication on how to improve the RFP/cost proposal process.

There are now two factors shaping the source selection process and influencing the cost panel's activities which necessitate AF/industry teamwork. First is the 120-day source selection, measured from RFP release to source selection decision, ideally with no AF/contractor discussions following receipt of proposals. For that to occur, the AF must explicitly communicate the requirements for a cost proposal and industry must submit their initial proposals correctly. The second factor further emphasizes quality. One of the Training Systems SPO's initiatives on Total Quality Management (TQM) is to improve productivity by, among other things, making the acquisition process more efficient. The thrust of TQM is to "do it right the first time." Our investigation of the RFP/cost proposal process indicates the area is ripe for application of TQM principles, with high payback to both government and industry in terms of time saved and pain reduced.

To meet the need for increased quality, teamwork is necessary between government and industry to outline weaknesses and propose solutions for RFP cost sections and resultant cost proposals. This paper, which explains the operation of the cost panel, discloses deficiencies in recent cost proposals, and identifies areas for future improvement, is seen as the first step in making that happen.

HOW THE COST PANEL WORKS

The cost panel consists of up to seven members with the exact membership determined by the number of bidders and the program's dollar value. The panel is isolated from the technical panels so that the technical review will not be influenced by a bidder's costs. Although the cost team can discuss technical issues with engineers, the

engineers do not have access to any cost figures. The overall objective of the panel is essentially twofold: to ensure that each bidder's costs are reasonable, realistic, and complete; and to establish the Most Probable Life Cycle Cost (MPLCC) to the government.

Reasonableness

For reasonableness, the panel judges whether the bidder's estimating methodology is acceptable. As an example, in the C-17 MTD source selection, a bidder structured his Economic Price Adjustment (EPA) clause with a Bureau of Labor Statistics index not representing the inflation expected in the training or electronics industry. Because that method of building an EPA clause was unreasonable, the contractor had to restructure his proposal during the source selection evaluation period.

Realism

For realism, the panel determines whether the cost and scope of the estimate are compatible. Again in the C-17 MTD source selection, an offeror proposed what appeared to be extremely low contractor logistics support (CLS) figures considering the number of bases and devices requiring support. When compared to actual CLS costs on analogous programs and even when comparing that offeror's costs to other bidders, it seemed the costs did not adequately cover the program content. Because the offeror provided no narrative explanation in support of his figures, it was necessary to issue a clarification request (CR). Also under the realism category, DCAS, AFPRO, and DCAA reports are reviewed for any significant findings from the government personnel closest to the contractors' operations.

Completeness

For completeness, the panel judges whether all statement of work tasks are costed in the proposal. As an example, during the C-141 ATS source selection, a contractor seemingly failed to price the training system support center, necessitating a CR from the Air Force.

Most Probable Life Cycle Cost

MPLCC is designed to more accurately reflect the actual cost to the government by including Other Government Costs (OGC) along with the contract costs. The MPLCC has changed in its dimension over the last couple of years. Previously, a separate independent Air Force estimate was developed for each offeror and briefed to the SSA along with the offeror's figure. Detailed explanation was often necessary as to why the AF figure differed from the contractor's. To accomplish the independent MPLCC, the AF requested that offerors provide data such as fully prepared parametric cost sheets. Needless to say, an independent estimate for each bidder required considerable additional data from the contractor and a great deal of effort from the Air Force team. However, with the advent of the streamlined 120 day source selection (see Figure 1), the independent estimate was eliminated. Today, the MPLCC is simply defined as follows:

> for firm fixed price contracts, the contract value plus OGC; for fixed price incentive contracts, the ceiling price plus OGC; for cost plus contracts, the target price plus OGC.

STREAMLINED SOURCE SELECTION PROCEDURES

ITEM	OLD PROCEDURES	NEW PROCEDURES
LENGTH	INDEFINITE	120 DAYS (GOAL)
INDEPENDENT COST ESTIMATE	YES	NO
DRAFT RFP REQUIRED	NO	YES
REFERENCE: AFR 70-30		

FIGURE 1

The OGC can be divided into two general categories: those that are standard, applied across the board in every source selection; and those which are selective, used only when the particular program characteristics so dictate. The first group consists of SPO TDY, SPO "overhead" (office supplies and equipment, desk-top computers, furniture, etc.) and engineering change orders (ECO), those funds set aside for eventual application to contract configuration changes. The estimate for each of these elements is based on SPO historical costs and is applied as a factor to each offeror's price.

The make-up of the second category of OGC can vary considerably depending on the particular training program, but a partial listing would include EPA, operational flying hours, AF TDY (during the operational phase), and government furnished equipment. Regarding EPA application, the cost team uses the Office of Secretary of Defense (OSD) inflation rates to determine any adjustment, plus or minus, to the contractor's price. That adjustment is captured in the OGC figure on our briefing charts. Of course, if a contractor proposes using OSD inflation rates in the cost proposal, the cost panel would not make any adjustments.

Operational flying hours are a point of much discussion. In the C-141 ATS source selection, hours were excluded because the using command stipulated the exact number of hours to be used, but typically, an ATS contractor can spell out the necessary flying hours to accompany the ground based training system. In an attempt to preclude an offeror's "gaming" the competition by proposing a low acquisition cost for the ground based training system at the expense of increased AF operating command training flying hours, the cost team typically includes the cost of each offeror's flying hours in the OGC.

Other Aspects

Another aspect of the cost panel is that unlike the other evaluation panels (technical, logistics, management), the cost panel's evaluation is not rated. That is, while the others rate each offer as exceptional, acceptable, marginal, or unacceptable, the cost panel's product is simply a dollar figure (the MPLCC) along with verbiage to the SSA explaining any salient features of a contractor's bid.

Past performance is a fairly recent addition to the Air Force's evaluation. The past performance evaluation team consists of members other than those on the source selection evaluation team and, from a cost standpoint, has the purpose of reviewing each offeror's cost performance on other programs. Although the past performance evaluators do not review the offerors' proposals for the on-going source selection, their evaluation is a significant part of the final briefing to the SSA and certainly has bearing on the SSA decision.

FINDINGS

A key to improving cost proposals is an analysis of past cost proposal problems. In the past, we have kept this information for our own records only. In this section, we provide the summary information of our analysis of past cost proposals.

A measure of the quality of a cost proposal is the number of deficiency requests (DR) and clarification requests (CR) prepared against each proposal. DRs and CRs are used by the government to communicate to the offeror that a portion of his proposal does not meet requirements. A low number of CRs and DRs would indicate high quality, while a high number would indicate poor quality. The goal is zero CRs and DRs.

The overall distribution of CRs and DRs is illustrated in Figure 2. An analysis of recent source selections yields a fairly consistent distribution of DRs and CRs from one source selection to another. Over 75% of DRs and CRs can be categorized in one of four categories. They are:

(1) Trackability between work breakdown structure (WBS)/contract line item number (CLIN) matrix, AF Form 2607 and Form CLS

(2) Missing data

(3) Full funding requirement for production funds

(4) Segregation of costs.

Each category is addressed below with several examples.

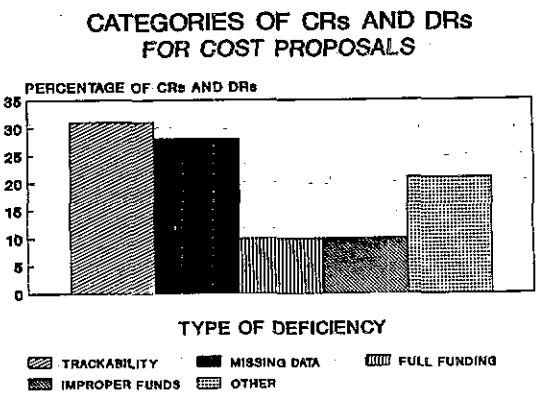

FIGURE 2

Trackability

The trackability problem accounts for over 30% of the CRs and DRs. Cost panels continually have problems relating costs listed on the WBS to those on the CLINs and vice versa. Some problems are obvious, such as adding up the subCLINs' costs and not arriving at the overall CLIN cost. Many problems are more difficult to discern such as which costs on a WBS are included in a particular CLIN. One specific example, in the C-17 MTD source selection, was system engineering costs for operational site C being included under the CLIN for site A. These type of errors indicate a need for increased quality checks by offerors prior to submitting the cost proposal.

Missing Data

The second leading cause of CRs and DRs is missing data. There is no overriding trend among data omitted. Some common examples of missing data include:

- inflation rates
- then year dollars on Form CLS
- prices on sub CLINs
- CLS costs for operational site
- WBS training system support center element

Again, the missing data indicate a need for increased quality checks on the cost proposals prior to submission.

Full Funding

The full funding concept is unquestionably the most misunderstood part of the cost RFP. On the C-141 ATS, C-17 ATS, and C-17 MTD programs, nearly all contractors violated the full funding policy, requiring in some instances two or three iterations before it was correct. Air Force cost teams have often discussed how the RFP full funding paragraph can be clarified and; over time, some changes have been made to the instructions, but to no avail. Of all the problems in cost proposals, full funding is probably the easiest to remedy.

Full funding is directed by the Department of Defense and specified in AFR 172-1, Vol I, Chapter 8. It applies to production funds only (not development, not operations and maintenance). Its intent is to allow Congress to see the full cost of a production program by budgeting for the end items (training devices) in a single year, despite the fact it may take several years to manufacture and deliver the items, with expenditures being made over that entire period. In other words, the total cost of equipment should be included in the year of procurement regardless of the fiscal year in which the costs are actually incurred. This concept is difficult to grasp by merely reading the definition, so we provide this illustration taken from the C-17 MTD program:

	Option 2 FY93	FY94	Option 3 FY95	FY96	Total
Qty procured	14		14		28
Qty delivered			14	14	28
Billing profile ($M)					
Option 2	2.1	7.2	2.3		11.6
Option 3			4.0	8.0	12.0
Funding profile ($M)	11.6	0	12.0	0	23.6

In this example, $11.6 in FY93 and $12.0 in FY95 should appear in the proposals. A contractor's biggest mistake is that he provides billing profiles, not backing those figures up to the year of procurement in consonance with full funding policy. Having production costs phased correctly in the initial proposal would save both the AF and the contractor significant time during source selection.

Segregation of Costs

The fourth leading cause of CRs and DRs is segregation of costs. The AF must fund specific work with certain appropriations (development funds, production funds, or operations and maintenance funds). Some offerors continually include part of their production costs under O&M. A representative example occurred during the C-17 ATS source selection when an offeror included site activation travel costs under O&M. In another instance, initial spares were placed in O&M. In both these cases, the costs should have been in the production phase as was clearly indicated in the WBS/CLIN matrix.

There seems to be a consistent problem determining whether the work effort falls under development, production, or O&M. Even with the guidance of AFR 172-1, there remain many "gray" areas in determining the proper allocation of costs. These questions need to be discussed during the draft RFP period as is mentioned later in the paper.

Other

The remaining CRs and DRs for cost proposals cover a wide variety of areas. Examples include addition errors, failure to provide estimating methodology, and inappropriate escalation rates for EPA.

By checking a cost proposal for missing data, full funding, good WBS/CLIN trackability, and segregation of costs, an offeror can potentially eliminate over 75% of the cost CRs and DRs.

RECOMMENDATIONS AND INITIATIVES

These findings reflect just the AF view of industry's performance in preparing cost proposals. We are certain that contractors have their views regarding the ambiguity of AF RFP instructions and the rationale for specific formats and detailed data. We in the Training Systems SPO are looking for ways to enhance the RFP process and recognize that if we can improve our cost instructions, industry can better respond. Toward that goal, we have a few initiatives and recommendations (some for industry and some for AF) which, hopefully, will be the initial steps toward improving the RFP/proposal process.

Draft RFP Inquiries

As reflected in Figure 1, the draft RFP is now an integral part of the RFP preparation process. If the cost section of the RFP is ambiguous to industry, it is incumbent upon the contractor to raise questions during the draft RFP review. Instructions accompanying the draft explicitly invite those questions. However, our recent source selection experiences indicate that relatively little is heard from the cost community, even in those areas obviously not understood by a contractor, judging by the resultant cost proposal.

Particularly on the more complex training programs we fully expect questions of clarification. To produce a quality cost proposal, industry must first understand what we want. In no way is the contractor placed in an unfavorable light because of inquiries during the draft review. To enhance the source selection process so that initial proposals are top quality and CRs and DRs are reduced, improved communication is essential. Comments to the draft must be a key part of that communication.

Delay of Cost Proposal Submittal

Occasionally industry requests a week's delay in submitting the cost proposal, due largely to additional pricing required for last minute configuration changes. We are told that a better product can be delivered if additional time is granted. Each source selection is considered separately as to whether an extension is granted. If we are convinced the additional time is warranted, we will grant it. However, it must be mentioned that on one occasion, with two source selections going on simultaneously, one with a week's extension (C-17 MTD), and the other with no extension (C-141), the extended program had more CRs/DRs than the other (Figure 3). However, if industry repeatedly stresses that this is an essential factor for quality proposals, we will actively listen and permit such whenever possible.

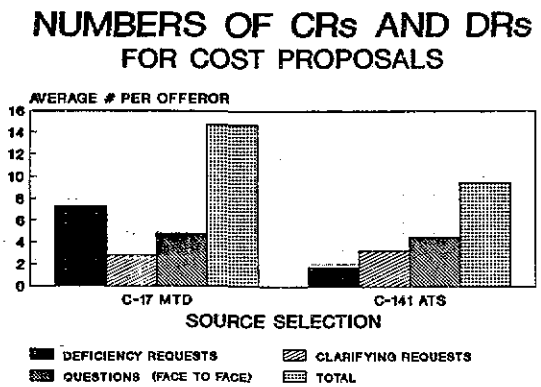

FIGURE 3

Level of Detail

On the day the proposals are received, the cost team is usually astounded at the size variation among the bidders' cost volumes. (This is the cost team chief's first indication of who the sharp AF analysts are--those quick to volunteer for the smallest volume). Following the C-141 ATS source selection, we actually measured the thicknesses of the four bidders' cost proposals: bidder A - 4", bidder B - 12", bidder C - 12", bidder D - 3". The best of the proposals in terms of consistency, trackability, comprehensiveness and clarity was by far bidder A. Beyond question, the worst was bidder B who had so much superfluous data that it was virtually impossible to wade through it all. To add to that frustration, despite its size, the requisite information

needed to evaluate their numbers was not there. We had to request even more information to understand their proposal.

A good example of detail we often receive which is simply not needed would be TDY costs. Some proposals on a $250M ATS program break TDY by destination for every month of the contract, showing number of days, per diem rate, and airfare. While that detail may be necessary for a sole source negotiated procurement, in a major ATS competition TDY costs are usually relatively insignificant, and a single line entry for total TDY will ordinarily suffice.

Incidentally, the winner of the C-141 source selection was C, who could have won with a proposal half that size, probably saving proposal preparation time and overhead costs. But the message here is not to randomly slice your cost proposal to a fraction of its customary size; rather, upon understanding what the AF cost team does, selectively eliminate those portions obviously not needed. If there is some question, contact the preparers of the RFP upon receipt of the draft. The draft RFP invites your questions.

WBS/CLIN Matrix

In preparation for this paper, we contacted several contractors immediately following our most recent source selections with an interest in determining how our RFP cost section could be improved and what portions needed clarification. As a result, we had several comments concerning industry's difficulties working with the WBS/CLIN matrix, wherein the requirement was to price CLINs for the contract and WBS for the proposal, the two seeming almost mutually exclusive. We recognize the difficulty in slicing the cost estimate in two ways and are willing to work to alleviate that problem.

To appreciate the situation, one must understand that the WBS and CLINs serve different purposes. The WBS is to reflect the SOW structure, while the CLINs are largely an identification of deliverable end items. During source selection, the WBS is used to evaluate what drives the costs of a bidder's proposed configuration; while the CLINs are used during the contract performance period to, among other things, write DD 250s for billing purposes. In addition, the WBS is governed by a DOD mil standard, somewhat dictating its make-up while CLINs are not. In total, the CLINs and WBS serve different purposes and should not necessarily be expected to mirror each other.

Despite the fact they have different purposes, we will attempt to align them together as close as possible. To that end, in all future RFPs starting with SOF ATS Phase 2, we will provide a WBS/CLIN matrix which ties each CLIN to a WBS element in what we consider the most straightforward, simplified manner. An example is shown here for SOF ATS Phase 2:

SOF ATS DEVELOPMENT/PRODUCTION WBS CLIN MATRIX
(MC-130H)

WBS No.	Description	CLIN	90	91	92	93	94	Tot
1.0	MC-130H ATS		*	*	*	*	*	*
1.1	Curriculum Devel	5	*	*	*	*	*	*
1.1.1 to 1.1.n	Courses							
1.2	Media	6	*	*	*	*	*	*
1.2.1	ATDs		*	*	*	*	*	*
1.2.2	CBT		*	*	*	*	*	*
1.2.3	Other		*	*	*	*	*	*
1.3	Support Sys	6	*	*	*	*	*	*
1.3.1	TSSC							
1.3.2	TMS							
1.4	Logistics Support Pkg	7	*	*	*	*	*	*
1.4.1	Formal School							
1.4.2	MOBs							
1.5	Data	8	*	*	*	*	*	*
1.6	Sys Engr/ Pgm Mgt	6	*	*	*	*	*	*
1.7	Training	6	*	*	*	*	*	*
1.8	Test and Evaluation	6	*	*	*	*	*	*
1.9	Site Activation	6	*	*	*	*	*	*
1.9.1	Formal School							
1.9.2	MOBs							

The WBS and CLINs are now essentially one-to-one and should facilitate cost proposal preparation.

CONCLUSION

In order to better meet the USER'S needs in a timely manner, we must adhere to a streamlined source selection schedule and pursue our TQM goal of no discussions. Writing better RFP cost sections and receiving better cost proposals are key elements in obtaining our TQM goals and thus better meeting the USER'S needs. Furthermore, a high quality cost proposal certainly improves the competitive position of the contractor. Teamwork between government and industry will be vital to the process of creating better RFPs and cost proposals.

In this paper, we have suggested increasing communication during the draft RFP process, possibly delaying cost proposal submittals, changing the level of detail provided, and simplifying the WBS/CLIN matrix. We realize this is just the first step in enhancing teamwork in the cost area. However, we fervently intend to increase the communication between government and industry in order to improve the RFP/cost proposal process in a mutually beneficial way.

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