

Chapter 6 Subcontract Management

6.0 Introduction

This chapter describes management roles and responsibilities for subcontract management and integration. The guidelines presented here have been widely used in the most successful programs. The purpose of this chapter is to reinforce these practices as a model for integral management of subcontracts.

6.1 Background

As discussed earlier, when our model enterprise commits to develop and deliver a major product, it assigns a program manager to act as the customer's agent to the company and the company's agent to the customer. The purpose is to assure that: 1) an equitable business relationship is established in a contract that defines the work to be done; (2) a mutually agreed-to cost is established for the conduct of the effort; and (3) the necessary resources are brought to bear to accomplish the work in accordance with the contract. If the project is a new product funded within the company, the customer is general management, but the duties are the same.

The program manager acts like a general contractor "subcontracting" the work, other than program requirements and integration, to entities that are skilled in the necessary disciplines to best perform the work required. In our model those "subcontractors" are the functional branches. I have used the terms *subcontracting and subcontractor* in quotes to connote a conceptual relationship between a project or program manager within the Enterprise acting as the general contractor, and functional organizations within the Enterprise who take on the role of "subcontractor" for some portion of the work. These relationships within the Enterprise should be no different whether the work is "subcontracted" within the Enterprise or subcontracted to an outside supplier.

In both cases we are seeking a partnership for the long term with the same needs for contractual definition, integration with the other ongoing activities, checks and balances, and status and controls. Chapter 4 described relationships that should be in place for "contracting" within the enterprise. This chapter addresses supplier relationships and the checks and balances within the Enterprise to assure integrity in those relationships.

Typically, half of the total contracted work in a complex project is procured from sources outside of the Enterprise. Subcontract management and integration is therefore an extremely important part of the activity. The subcontract management concept described here emphasizes the close coordination of several functional organizations, each responsible for defining parts of what any given subcontractor will do. The challenge is to integrate these requirements to be consistent with the strategy, goals and requirements of the program.

6.2 Make or Buy Decisions

In the formulation of a program strategy, the program or project manager should prepare the proposed make or buy plan with the participation of supporting organizations. This plan should be formulated and approved before any bids are solicited from outside suppliers. If a decision is made to solicit supplier bids for a portion of the work, there should be no competition except by other suppliers. That is to say, because of the potential for conflict of interest, no part of the Enterprise should be allowed to compete with outside suppliers bidding for the work. The only circumstances in which I would modify that philosophy are: 1) in the event that a supplier competitively selected either failed to perform the work; 2) if in the bid instructions, it was clearly identified that there was a *make and* buy decision, in which case the supplier would legitimately limit the information he would provide to the prime prior to the final decision; or 3) there was a pre-agreed commitment to dual-sourcing with an up front definition of the split.

6.3 Source Selection

In selecting sources of supply for any commodity or service we seek a competent, reliable supplier with a good competitively priced product solution, who is interested in being a valued member of the project team, and who shares the buyer's values. Usually this objective is best achieved by comparative shopping in a way that allows the buyer to make an accurate judgement based on these criteria. Sometimes, the choice is obvious, and should be made outright using negotiations to assure an equitable fit. But usually, particularly in the case of a new requirement, the most effective approach is to conduct a competition.

A buyer with integrity will never hold a competition when he or she already knows who will win. Most complaints about procurement selections arise because someone felt misled. It should be assumed that regardless of the selection method used, someone will be unhappy and will seek to protest. Therefore, unambiguous descriptions of the basis to be used for selection, and rigorous evaluations with thorough documentation are a must, and will save lots of grief later.

6.3.1 Competition and its Value

Competition is a method for dealing with a management problem. It should be used judiciously, but it is frequently misused.

The acquisition of commodities, products, or services, presents four common types of problem that can be alleviated by competition. The first is when the buyer is not sure what to buy. Here the objectives are to see what alternatives are available to address the need, and then to pick the best solution and competency at an acceptable cost for that solution. The type of contract envisioned has a big influence on the criteria for selection. For instance, if you want some or all rights to the solution, you have to pay for it. There will be changes as you and the supplier define the requirements and solution, so the cost of doing business is more important than a bid price. See Chapter 12 for more on contract types.

The second problem is when the buyer knows exactly what to buy, but doesn't know what it should cost. Here the assumption is that any qualified bidder's product is technically acceptable and we are seeking the lowest price offering. This is simple enough, but the difficulty is in knowing that the first assumption is correct. In any case, if a competition is conducted fairly, the buyer must be willing to accept any of the bidders based on the selection criteria defined for the competition. If the assumption doesn't hold, the buyer should restrict the bidders to those who can satisfy that requirement. It is a waste of all parties' time and money to do otherwise.

The third is when the buyer needs to maintain several sources of supply at least through some point to reduce risk of failure. Multiple sourcing to a down-select point is also a good way to prevent a "buy-in:" a low initial bid designed to eliminate the competition with the intent to get well in the follow on business. Here again, contract forms are important and it is appropriate to tell the bidders what it takes to win at the time of down select or selection of a single supplier down the road.

The fourth problem is when the buyer is dissatisfied with the commitment or performance of a current supplier and unable to achieve an improvement in that performance. In other words, that supplier is no longer holding up his or her end of the team relationship.

Screening out unqualified bidders can be accomplished by sending out requests for information (RFI's) to any interested parties with the objectives of the procurement and necessary qualifications. The responses to those requests together with site visits usually filter out the ne'er-do-wells. It is not unusual, however, to have some competitor you have disqualified demand to have a chance to bid the job, and this can create a dilemma if the RFI was not carefully composed. If that job was done properly and the responses fairly evaluated and documented, a meeting with the offended supplier generally suffices to end it. If not, be ready for a protest to some higher authority. Any good buyer will tell you that comes with the territory.

6.3.2 Selected Source vs. Competitive Acquisition

As we said, if you already know who you are going to select, don't go through a sham competition. Be courageous. The RFI process is a good way to shake the tree without you or other suppliers wasting a lot of money. Some excellent and lasting supplier selections have been made outright on the basis of a face-to-face discussion. While some government agencies prime contracts require all subcontracts to be competitive, it is usually possible using evidence from RFI's to convince them that there is no justification in conducting the competition.

6.3.3 Re-competing On-going Work

Unless you are buying nails and don't care what kind you get, or your current supplier has failed to live up to commitments, re-competing for production or follow on production just to drive cost down is a really bad idea. The cost to properly qualify another source to meet the need generally exceeds any perceived savings. So when you are angry and ready to take that step, count to ten and think it through. The government sometimes competes production as a standard policy, at a tremendous and unjustified cost. Consider the effect on a supplier if he knows regardless of how well he does in meeting your need, you are going to re-compete him in

production. Is that contractor likely to be completely open with you? Is he going to take the long-term team view in decisions affecting the project? Not likely.

There are a few exceptions. When you must maintain or establish more than one source of supply to avoid risk, or achieve more production capacity, you have already committed to the cost of qualifying the multiple sources' products and are using all of them successfully. Ammunition might be a good example.

6.4 Program Subcontract Integration and Management

This subcontract management approach is intended to emphasize (1) clear commitments to excellence in performance; (2) measurement of performance; (3) internal Enterprise "ownership" and pride in the subcontracted product; and (4) integrity on the part of all individuals and groups, both company and subcontractor, who are working on the product. This includes all aspects of the project whether technical, quality, schedule, or cost performance.

"Ownership" includes two elements:

- 1.) The acceptance of responsibility by an Enterprise individual for the performance of all effort for which budget responsibility has been delegated.
- 2.) The acceptance of responsibility for and pride in the end-item performance in its intended usage even when others have been delegated the downstream budget responsibility. This includes the performance of equipment, software or data in its ultimate use, whether it is a test or operational application.

6.4.1 The Subcontract Management Team Concept

Unless what is being procured is an off the shelf or catalog item, some development will be required by the supplier selected. In order to provide the proper environment for integrated subcontractor decisions, a subcontractor management team should be formed for each major or critical subcontract or group of related subcontracts. The objective of this coordinated effort is to provide a subcontract management team that understands the procurement, is a "knowledgeable buyer", and can manage the subcontract in a fair and equitable manner consistent with program management requirements and goals.

Each team is responsible for preparing the procurement package, evaluating proposals, and managing all activities of the procurement. This would include decisions on how requirements and goals should be specified, the rationale and form of contract to be used, the conduct of joint design reviews, design data and testing to be provided, and configuration control ground rules (who can change what and when). This team effort normally will extend from the start of the prime contract proposal preparation and negotiation through design concept, development, and product delivery, concluding with the successful completion and closure of the subcontract. The major objective of these teams will be coordinating the participation and interaction among the involved branches with the subcontractor for total management of the subcontract.

6.4.2 Team Makeup

Each team should include representatives of (1) engineering as the subsystem manager's delegate; (2) Materiel as the subcontract representative and team business manager; (3) Product Assurance as the quality requirements and evaluation representative; (4) Program Office as the program requirements and integration representative; and (5) Program Controls where warranted. Other functional representatives from Test Engineering, Manufacturing, or other areas may be required and included in the team depending on the subcontract and its current status.

Chairmanship of the subcontract management team will change as the subcontract effort matures from design to production. During the prime contract and subcontract proposal and negotiation phases the Program Office representative may be the chairperson. The subsystem manager's delegate will normally act as the chairperson from start of design through production design freeze. The Materiel subcontract representative will usually fill the position of chairperson from production design freeze through the completion and closure of the subcontract. The precise timing of the change of chairperson will depend on the subcontract involved and the specific circumstances at the time of change. It must be recognized that there will probably be transition phases rather than precise transfer dates.

6.5 Subcontract Management Team Tasks

A. Developing the Subcontract Procurement Package

One of the initial functions of the subcontract management team is the development of a subcontract procurement package. The task of preparing this package and accomplishing all of the intermediate steps leading to the award of the subcontract requires the combined efforts of individuals representing the various functional organizations.

This procurement package must provide

- Subcontract definition based on and accurately reflecting all of the applicable prime contract requirements.
- Key events pertaining to subcontractor efforts in support of the in-house program master schedule. These milestones will start from the end-item delivery date that will support the overall program, working backward using executable spans, based on experience, to the start of subcontractor production. Compatible in-house milestones will also be established starting with subcontract placement, working backward through negotiation and receipt of contractor proposals to subcontractor task definition.
- Technical, schedule, hardware and data delivery requirements, as well as business, programmatic and other requirements for each of the applicable functional disciplines.
- The method of selection and the criteria that will be the basis of selection of the successful subcontractor, as well as the contract form anticipated.

The expertise to integrate and coordinate the functional inputs with the prime contract requirements and goals and the program schedule, programmatic and budgetary constraints normally will be in the Program Office. Therefore, the Program Office representative will normally chair the team during this period.

B. Subcontractor Selection

The team conducts the source selection process following applicable policies and procedures, and prepares the results for review and approval by the designated source selection authority within the Enterprise.

C. Implementing the Subcontract Effort

The team negotiates the subcontract if required and, prior to award, assures that it is consistent with the prime contract negotiated requirements and resources.

As part of the checks and balances to insure acquisition integrity, the functional authority and expertise for the processes in B) and C) are in the Materiel and Subcontracts organization. Therefore, the Materiel subcontract representative to the team normally will chair the team during these periods.

D. Evaluating Subcontractor Performance

The team attends design reviews, which will be chaired by the subsystem manager's delegate to the team. At least monthly, the team also monitors the subcontractor's technical, schedule and cost performance against plans and requirements. The team will coordinate workarounds, recovery schedules, changes, etc., and assure compatibility with the balance of the program effort.

If the commodity is an off the shelf item requiring no development effort, this effort is curtailed to monitoring delivery commitments to assure they will be met.

The functional expertise in these areas will reside with the subsystem manager's delegate, who will therefore normally chair the team during this period.

6.6 Functions and Responsibilities

Each functional representative on the subcontract management team is his or her organization's spokesperson for that subcontract, including that organization's "ownership" responsibilities during all phases of the procurement. As a team partner, each member is expected to provide the technical and management excellence

of their parent functional organization necessary to assure that the subcontract achieves the results committed to by the functional organization. Each team member will also be responsible for monitoring and controlling the budget allocated to his or her functional organization for the subcontract, and will share with all of the team members the responsibility for adherence to the overall subcontract cost and schedule constraints.

Each team member, along with his or her functional manager, is expected to assume this "ownership" attitude toward the segment of the product that they have committed to provide. They are also charged with accomplishing their organization's commitments for the subsystem or equipment as a whole. This is at once an individual, an organizational, and an integrated team attitude. These objectives require each team member to establish effective relationships and work in concert with the other functional team members to assure that all interdependent program tasks are completed successfully.

In addition to these common responsibilities, each team member has specific functions and responsibilities, including those described below:

6.6.1 Subsystem manager

In the case of a subsystem or equipment that is procured from an outside source, the subsystem manager is responsible for the technical direction of subcontractor activities needed to secure the development and production of items for which he is responsible. In carrying out this technical responsibility, the subsystem manager shares with other functional members of the team the responsibility for maintaining schedule and adhering to planned cost constraints.

Subsystem manager's delegate - The Responsible Equipment Engineer: This individual, generally from engineering, is the team technical leader and as such is responsible for and cognizant over all technical requirements of the subcontract. Within the constraints of the subcontract, he provides technical direction to the subcontractor, monitors the subcontractor's technical performance, chairs design reviews, dispositions design departures, monitors and controls budget allocated to engineering for the subcontract, and shares with other team members the responsibility for maintaining schedule and adhering to planned cost constraints.

6.6.2 Subcontract administrator and team business manager

The Materiel subcontract representative is the team's contracting officer and as such is the expert on the "rules of the road" for procurement. He or she is also the responsible for evaluating subcontractor cost and schedule performance and accomplishment against subcontract requirements. The Subcontract administrator will chair all subcontract negotiations, participate in prime contract negotiations on subcontract matters, coordinate within the team and provide all contractual direction to the subcontractor, receive and distribute all subcontract reports, data and correspondence, monitor and control the budget allocated to the Materiel organization for the subcontract, share with other team members the responsibility for maintaining schedule and adhering to planned cost constraints, function as the team business manager and provide program and general management with periodic team status reports.

6.6.3 Product assurance quality representative

The Product Assurance representative is the team quality manager and as such is responsible for developing the subcontract quality requirements and assuring that they are consistent with the prime contract quality requirements. He also participates in failure analysis and quality direction to the subcontractor, and monitors and controls budget allocated to Product Assurance for the subcontract and shares with other team members the responsibility for maintaining schedule and adhering to planned cost constraints.

6.6.4 Program Office representative

The Program Office representative provides program requirements and coordinates their incorporation into the subcontract, monitors the integration of the team members' functional effort, tracks subcontracts progress against the program plan, helps develop contingency plans as necessary, and monitors overall cost performance. The form of subcontract to be used should be determined in the same way as are Enterprise contracts with its customers. These concepts are discussed in detail in chapter 12.

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