



UNIT-18

Project Procurement Management

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Outline knowledge areas of project procurement management
- ✓ Discuss the project procurement management plan
- ✓ Discuss contract administration procedures of a project

Unit 18

Project Procurement Management

Projects require procurements regularly. Projects need equipment, consultants, materials, training, and many other services and goods. The process of purchasing the products necessary for meeting the needs of the project scope is called project procurement management.

The processes involved in purchasing goods or services from external vendors, contractors, and suppliers are included in the Project Procurement Management knowledge area. When discussing the Procurement Management processes, it is assumed that the discussion is taking place from the perspective of the buyer. As the project manager, you would be the buyer purchasing the goods or services from a supplier or contractor; therefore, these processes should be examined from that perspective.

The following are the processes in the Project Procurement Management knowledge area: Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout.

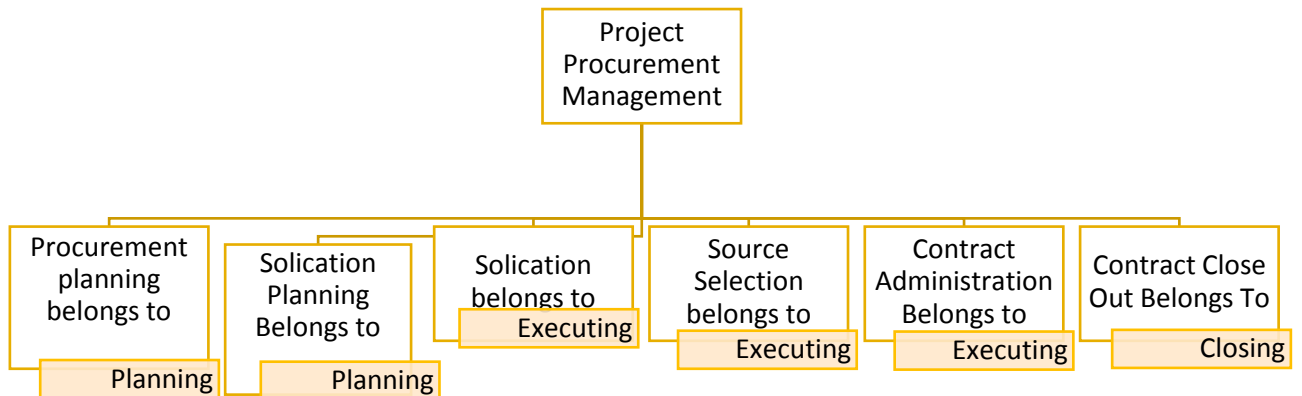


Fig. 18.1 Project Procurement Management

Planning for Procurement

The process of identifying which part of the project should be procured from resources outside of the organization is called Procurement Planning. Usually, procurement decisions are made early on in the planning processes. Procurement planning has four major elements:



Referring to the Scope Statement

The process of making procurement decisions is input by the project's scope statement. Because the project scope statement defines the project work, and only the required work, to complete the project, it also defines the limitations of the project. Knowledge of these limits to what the project includes can help the project manager, other procurement professionals and contract specialists determine what needs to be purchased and what does not.

Referring to the Product Description

The details and requirements for acceptance of the project are defined by the product description. This information also serves as valuable input to what needs to be procured, and what does not. The project's end result is defined by the product description. When dealing with vendors and procuring portions of the project, it is vital to ensure that the work to be procured supports the requirements of the project customer.

A statement of work (SOW) defines the work to be accomplished within the project, but it generally does not define the product description as a whole. However, if the entire project is to be procured from a single vendor, the SOW and the product description become one and the same.

Evaluating the Market Conditions

Part of procurement management is to determine what sources are available to provide the needed services or products for the project. Determining what products and services are available and from whom and on what terms and conditions they are available requires an evaluation of the marketplace.

While in most free market enterprise societies there are multiple vendors offering comparable products, there may be times when choices of vendors are limited. There are three specific terms to be aware of for the PMP exam that you may encounter:

- **Sole source:** Only one qualified seller exists in the marketplace.
- **Single source:** The performing organization prefers to contract with a specific seller.

- **Oligopoly:** There are very few sellers and the actions of one seller will have a direct effect on the other seller's prices and the overall market condition.

Relying on Procurement Resources

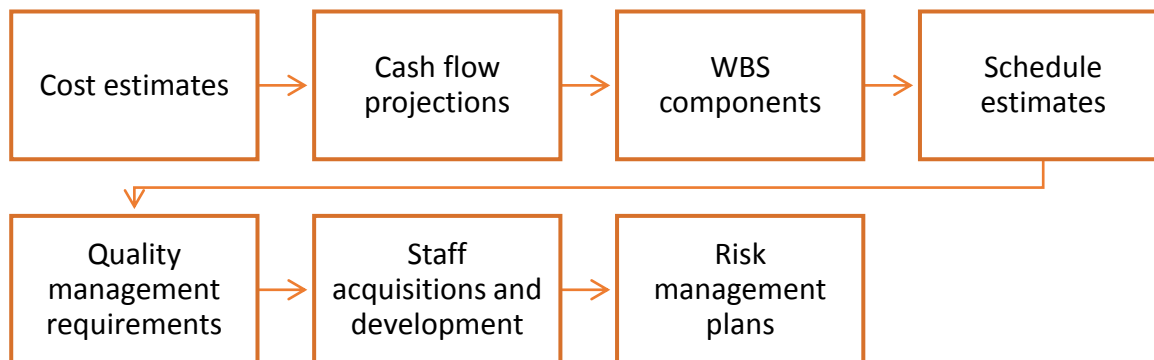
Organizations often have resources for managing the procurement process, including negotiating and contracting on behalf of the project. However, if the performing organization has no such resources upon which the project manager might rely, he/she will be responsible for supplying the procurement management resources. This also includes capabilities for negotiating and obtaining in a fiscally responsible way the right products or services for a fair price on behalf of the performing organization.

Evaluating Assumptions, Constraints, and Other Factors

The project assumptions and constraints may directly influence the procurement process. For example, if there is a time constraint to complete a project by a given deadline, additional labourers will need to be procured to complete portions of the project work in order that the project might be completed as scheduled.

Assumptions can also affect procurement decisions. A project's budget could be skewed by a false assumption, such as the belief that the installation of a piece of equipment was part of the quoted price. Assumptions must be eliminated as much as possible, especially in procurement planning.

Other factors must also be considered for effective procurement planning:



Determining Whether to Make or Buy

A fundamental aspect of management is the decision on whether to make or buy a product. Sometimes it is more cost-effective to buy, while at other times it makes more sense to create an in-house solution. The make-or-buy-analysis should be undertaken in the initial scope definition. This determines whether the entire project should be completed via procurement or in-house. Additional make-or-buy decisions are needed as the project evolves.

The initial costs of the solution for the in-house or procured product must be considered, but so too must the on-going expenses of the solutions. For example, if a company elects to lease a piece of

equipment, the on-going expenses of leasing the piece of equipment should be weighed against the expected on-going expenses of purchasing the equipment and the monthly costs of insuring, maintaining, and managing the equipment.

Completing Procurement Planning

With certain exceptions, procurement planning should be undertaken early in the planning processes. As needs arise, as project conditions change, or as other circumstances demand, procurement planning may be required throughout the project. Whenever procurement planning occurs early in the project (preferred), or later in the project (needed), a logical approach to securing the proper resources is necessary.

Using Expert Judgement

Procurement planning may rely on expert judgement. It may be beneficial to rely on the wisdom of others—those in the performing organization or subject matter experts—to determine the need for procurement. Expert judgement for procurement management planning can be supplied by the following:

- Units or individuals within the performing organization
- Consultants and subject matter experts
- Professional, trade, or technical associations
- Industry groups

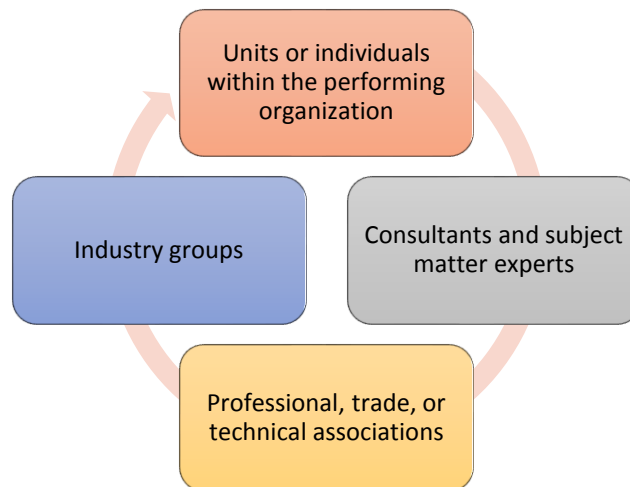


Fig. 18.2

Determining the Contract Type

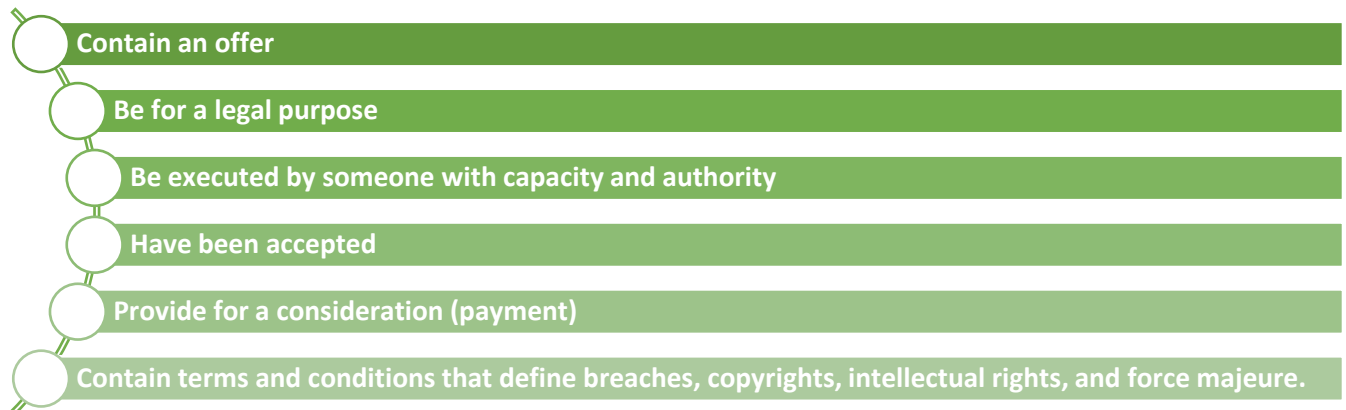
When it comes to procurement, there are multiple types of contracts. The project work, the nature of the purchase, and the market determine the contract type. Here are some general rules that project managers should know:

A contract is a formal agreement between the buyer and the seller. Contracts can be oral or written—although written is preferred.

- Contracts should clearly state all requirements for product acceptance.
- Any changes to the contract must be formally approved, controlled, and documented.
- The United States backs all contracts through the court system.
- A contract is not fulfilled until all of the requirements of the contract are met.
- Contracts can be used as a risk mitigation tool, as in transferring the risk.

All contracts have some level of risk, depending on the contract type. The risk can be transferred to the seller. If a risk response strategy is to transfer, risks associated with procurement are considered secondary risks and must go through the risk management process.

There are legal requirements governing contracts. In order for a contract to be valid, it must:



Fixed-Price Contracts

Fixed-price contracts are also known as firm-fixed-price and lump-sum contracts. These are agreements that define a total price for the product that the seller is to provide and the requirements that the vendor is to provide. These contracts may also provide incentives for meeting or exceeding contract requirements—such as meeting deadlines—and require the seller to assume the risk of cost overruns.

Time and Material Contracts

Sometimes called Unit Price Contracts, Time and Material (T&M) contracts are ideal for instances when an organization contracts out a small projector, such as when smaller amounts of work within a larger project are to be completed by a vendor. However, T&M contracts can grow dangerously out of control as more work is assigned to the seller.

Cost-Reimbursable Contracts

These contract types pay the seller for the product. In the payment to the seller there is a profit margin—the difference between the actual costs of the product and the sales amount. The actual costs of the product fall into two categories:

- **Direct costs:** These are costs that are incurred by the project in order for the project to exist. Examples include salaries of the project team, equipment needed to complete the project work, and other expenses tied directly to the project's existence.
- **Indirect costs:** These are costs that are attributed to the cost of doing business. Examples include utilities, office space, and other overhead costs.

The buyers are to assume the risk of cost overruns as required by cost-reimbursable contracts. There are three types of cost-reimbursable contracts:



Procurement Planning

Procurement planning is a process that should take place early in the planning processes. The project manager and the project team can proceed with confidence in the procuring of products and services needed to successfully complete the project after the outputs of procurement planning are available. If it is determined early in the project that there is no need for procurements, then obviously the balance of the procurement processes is not necessary for the project.

Procurement Management Plan

The decisions made in the procurement planning processes are documented in this subsidiary project plan. It specifies how the remaining procurement activities will be managed. The plan details the following:

- How vendors will be selected
- The process of independent estimating
- The relationship between the project team and the procurement office within the performing organization (if one exists).
- The type of contracts to be used
- The coordination between sellers and the project team and among project activities, project reporting, scheduling, business operations, and other project concerns.

- The procurement forms, such as contracts, the project team is required to use
- How multiple vendors will be managed to supply their contracted products.

Using the Statement of Work

The seller fully describes the work to be completed and/or the product to be supplied in the Statement of Work (SOW). The SOW becomes part of the contract between the seller and the buyer. The SOW is typically created as part of the procurement planning process, and it allows the seller to determine whether it can meet the written requirements of the SOW. Particular industries have different assumptions about what constitutes an SOW. What one industry calls a SOW may be a Statement of Objectives (SOO) in another. An SOO is a document which describes a problem to be solved by the seller.

Completing Solicitation Planning

Solicitation planning is the process of preparing to solicit sellers to provide products required by the project. This is a fairly straightforward business, as Figure 12-4 demonstrates. There are three inputs to solicitation planning:

- **Procurement Management Plan:** This subsidiary plan sets out the methodologies and **expectations of procurement within the performing organization.**
- **Statement of Work:** The SOW provides detailed information on what the seller will be providing for the performing organization. Recall that this document allows the seller to determine whether it is able to provide the product and meet the requirements of the **project team.**
- **Other planning outputs:** Other details within the project plan, such as the schedules, estimates, constraints and assumptions, are referenced as their values may have direct influences on the solicitation process.

Organizing Solicitation Materials

Solicitation planning depends on the outputs of procurement planning. The process will be guided by the Procurement Management Plan according to what the project team has planned, what the performing organization requires, or according to the guidance of the procurement office within the performing organization.

There are two primary tools used for solicitation planning:

- **Standard form:** There may be many different standardized forms for contracts, descriptions of procurement items, bid documents, and other procurement-related documents within the performing organization.

- **Expert judgement:** Expert judgement may be needed to help the project manager review and select the best source for the procured product.

Creating the Procurement Documents

Procurement documents are one of the primary outputs of solicitation planning. These documents guide the relationship between the buyer and seller. Communication that takes place between the buyer and the seller should always be specific about the expectations and requirements of the seller. In initial communications, especially when requesting a price or proposal, the buyer should include the SOW, relevant specifications, and, if necessary, any non-disclosure agreements (NDA). When buyers make requests to sellers, they should be specific enough to give the seller a clear idea of what the buyer is requesting, but general enough to allow the seller to provide viable alternatives.

Creating Evaluation Criteria

Evaluation criteria are another output of solicitation planning. They are used to rate and score proposals from the sellers. In some instances, the evaluation criteria are focused solely on the price offered by the seller, such as in the case of a bid or a quote; in other instances, such as a proposal, the evaluation criteria can be multiple values: experience, certifications, references, and more.

Updating the Statement of Work

Updates to the Statement of Work are the final outputs of solicitation planning. As the project team creates requirements from the sellers during invitations for bids, requests for quotes, or requests for proposals, the team may discover other elements needed in the SOW. Additionally, the bids, quotes and proposals may offer alternatives that the project team has not considered. A new SOW may be created as a result. Changes to the SOW should be updated, documented, and recorded. This reflects the logic and reason behind the change.

Preparing for Solicitation

The actual process of solicitation can begin once the solicitation planning has been completed. Fortunately, the sellers, not the buyers, perform most of the activities in solicitations. Usually there is no additional cost to the project for this, since the sellers are busy trying to win the business. There are two inputs to solicitations:

- **Qualified seller lists** are often maintained by performing organizations. These lists of qualified sellers (also known as preferred sellers or approved sellers) generally contain information on past experience with the seller, contact information, and other pertinent information. There are many other resources for determining which sellers may qualify for the proposed work other than the

internal qualified seller list. These include internet resources, industry directories, trade associations, and others.

- **Procurement documents** are created in solicitation planning. These are the Invitations for Bid, Request for Quote, and Request for Proposal documents.

Completing Solicitation

Inviting sellers to solicit the business of the performing organization is the process called Solicitation. Two primary tools are needed to complete this process:

- **Advertising:** Advertisements inviting bidders are expected in most circumstances. These advertisements may run in newspapers or trade journals specific to the industry of the organization. Some government agencies require advertisements inviting sellers to attend a bidder conference, solicit the project work, or present a proposal for the described work.
- **Bidder conferences:** A bidder conference, also called a vendor conference or contractor conference, is a meeting with prospective sellers to ensure that all sellers have a clear understanding of the product or service to be procured and are all on an equal footing. Bidder conferences allow sellers to question the buyer on the details of the product. This helps ensure that the seller's proposal is adequate and appropriate for the proposed agreement. All sellers are considered equal at this point in the process.

Examining the Results of a Solicitation

As expected, the final result of a solicitation is a collection of proposals, bids and quotations. These documents indicate the sellers' preparedness and ability to complete the project work. The stated expectations of the buyer should be aligned with the proposals, which may be presented orally, electronically, or in hard-copy format. The relationship between the buyer and seller, and the type of information being shared, will determine which modality is the best choice of communication.

Determining Source Selection

The sellers present their proposals, bids, or quotes (depending on what the buyer has requested of them). Once this is done, their documents are examined in order that the project manager might select which sellers are the best choices for the project work. In many instances, price may be the predominant factor in choosing a particular seller—but not always.

Other factors besides price may also be taken into consideration:

- If an item cannot be delivered in a timely manner, it may not reflect the true cost to the performing organization. If a seller promises to have a product on site by a specific date and fails to do so, the project may be delayed, costing the organization large losses.

- Critical, high-priority projects may rely on multiple sellers to complete the project work. This redundancy can balance risk, cost, and opportunity among multiple vendors.
- Proposals can be separated into two categories: commercial and technical. The commercial category delves into the price required to complete the project work. An evaluation takes both categories into consideration in order to determine the best choice for the project. The technical category describes the methodology and approach to complete the project work.

Preparing for Source Selection

Source selection evaluates and weighs the bids, proposals, and quotes for the procured portions of the project. A determination is then made as to which seller is the best for the project work. Source selection has three inputs to the decision-making process:

- **Organizational policies:** The performing organization is likely to have procedures and procurement policies that the project manager is expected to follow in regard to source selection. Before the source selection process begins, the organizational policies should be consulted. This is to avoid any discrepancies, conflicts of interest, or other breaches of the policies. For example, some organization's procurement policies do not allow project managers to accept any gifts over £15 in value.
- **Proposals:** Key inputs are the proposals, bids, and quotations provided by the sellers. The performing organization will evaluate these documents to determine which seller is the best provider for the project.
- **Evaluation criteria:** The evaluation criteria, such as samples of previous work, referrals and references, are considered. The evaluation criteria are evidence of the quality, depth, and experience of work the seller has performed in the past and, presumably, is capable of performing on the current project. Evaluation criteria are developed in solicitation planning and applied in source selection.

Completing the Source Selection Process

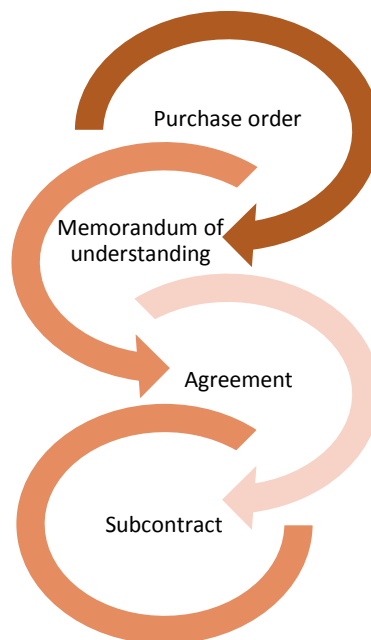
There must first be eligible sellers before the performing organization can finalize the process of source selection. Assuming there is more than one seller that can satisfy the demands of the project, there are four tools and techniques on which the project manager can rely:

- **Screening system:** This is a method of removing from consideration those sellers that do not meet the given conditions. For example, screening might require sellers to have prior experience with the project technology, be certified by a specific organization, or meet other values. Sellers not meeting the requirements are removed from the selection process and their proposals are not considered.

- **Contract negotiation:** The performing organization creates an offer which the seller considers. The contract negotiation process creates a fair price for the work to be completed by the seller. Prior to signing the contract, the seller and the performing organization must be in agreement on the requirements, authorities, expectations, terms, technical and business management approaches, price and any other pertinent factors covered within and by the contract.
- **Weighting system:** This removes the personal preferences of the decision-maker in the organization to ensure that the best seller is awarded the contract. A weighting system creates a matrix. Weights are assigned to the values of the proposals and each proposal is scored. Since the weights are determined before the proposals are reviewed, the process is guaranteed to be free of personal preferences and bias. The contract is awarded to the seller with the highest score.
- **Independent estimates:** These are often referred to as “should cost” estimates. They are created by the performing organization, or outside experts, to predict what the cost of the procured product should be. If there is a significant difference between what the sellers have proposed and what the organization has predicted, we can say that either the sellers have misunderstood the requirements, or the Statement of Work was inadequate.

Examining the Results of Source Selection

The contract between the buyer and the seller is one output of source selection. A contract is a legally binding agreement between the buyer and seller. The seller is to provide the described product and the buyer is to pay for the product. Contracts are known by many names:



A person with the power to authorize the requirements and payment specified in the contract signs the contracts. This role is called the delegation of procurement authority. This person may be the project manager or someone else, depending on the procurement policies of the performing organization.

In some organizations, all contracts flow through centralized contracting. This requires that all contracts for all projects be approved through a central unit within the performing organization. Other organizations use a decentralized contracting approach. They assign a contract administrator or contract officer to the project.

Performing Contract Administration

The process of ensuring that the seller lives up to the agreements in the contract is called Contract Administration. To ensure that the seller meets its obligations, the project manager and the contract administrator must work together. Legal remedies may ultimately be pursued if the seller does not fulfill its contractual requirements.

Another aspect of contract administration is the coordination between the contractors. This is especially important on larger projects with multiple sellers providing various products. The contract officer or project manager schedules and confirms the performance of the sellers to ensure that the deliverables, schedule and performance of a contractor do not infringe or adversely affect the performance of another contractor.

There must be the terms for payment within the contract. Typically, the progress of the contractor and performance are directly linked to the payments the contractor receives. The project manager must track quality and performance to approve or decline payment as required.

Preparing for Contract Administration

The contract serves as a guide for effective contract administration. It dictates the requirements and expectations of the buyer and the seller. The obligations of both parties should be in alignment with the contract. If this is not the case, disagreements, delays and even work stoppages may ensue. There are three other inputs to contract administration other than the contract. These are as follows:

- **Work results:**The work results of the sellers must be completed according to the requirements of the contract. The seller must meet the expected schedule of completion and quality standards of the performing organization and stay within the anticipated costs and the specified range of variance. This is part of project plan execution.
- **Seller Invoices:**The terms for payment are specified within the contract. The terms for payment may stipulate under what conditions the seller will provide an invoice for the work completed. Additionally, the buyer may specify how and when the invoices are paid, for example “Net 30 days from receipt of the invoice”.

- **On the job:** In the event that the seller's performance is unacceptable and a resolution to the problem cannot be found, the performing organization may elect to cancel the contract. This termination of the contract is also handled as a change request within the Change Control System.
- **Change requests:** Contract administration can be complicated by change requests. The performing organization's Change Control System has to be compatible, somehow, with the seller's Change Control System. Changes to the project that affect the contracted work require changes to the contract, a new contract for the additional or changed work, or addendums to the contract. The seller and the buyer may disagree about the cost of the changes in some cases. We can call these differences claims, disputes, or appeals. If they are not remedied, they may ultimately slow the project progress.
- **Completing Contract Administration:**
Completing contract administration is a process that relies heavily on communication between the project manager, the seller and the contract officer. The communications plan may have considerations for what the purpose of the communication should be and how and when the communication between the buyer and seller should take place. There are three primary concerns, in addition to communication, within contract administration.
- **Payment System:** Sellers like to be paid when they have completed their obligations. The method of payment to the sellers is controlled by the payment system. This includes interaction between the project manager and the Accounts Payable department. There may be strict guidelines from the performing organization on how payment requests are submitted and approved and how payments are completed. On larger projects, the project management team may have specific procedures for submitting the payment requests.
- **Contract Change Control System:** The procedures for changing the contract are defined by the contract change control system. The process for changing the contract includes the forms, tracking, conditions within the project, business, documented communications or marketplace, which justify the need for the change, dispute resolution procedures, and the procedures for getting the changes approved within the performing organization. The system is part of Integrated Change Control.
- **Performance Reporting:** Performance reporting is the communication between the project manager and management on how the seller is performing under the guidelines in the contract. Performance reporting is part of communications and should be documented within the Communications Management Plan.

Performing Contract Closeout

The purpose of Contract Closeout is to confirm that the obligations of the contract have been met as expected. It is analogous to administrative closure. The project manager, key stakeholders, the

customer, and, in some cases, the seller may complete product verification together to confirm that the contract has been completed.

We can also link contract closeout to administrative closure, as it is the process of confirming that the work has been completed. In instances when the contract was terminated, contract closeout is reviewed and is considered closed because of the termination. Updating of the project records is necessary as it reflects the contract closeout and the acceptance of the work or product.

Reviewing Contract Documentation

The details of the contract may need to be reviewed to successfully close out a contract. This review ensures that the product verification is complete and in accordance with the agreement and language in the contract. More than just the contract is actually considered in the review. The project manager should review and consider the following:

Schedules of the procured work	
Contract change requests—approved and declined	
Documentation created and provided by the seller, if any	
Financial documents, invoices, payment records	
Results of contractual inspections	

Auditing the Procurement Process

Through contract administration, the successes and failures within the procurement process of the project are reviewed from the procurement planning stage. The purpose of the audit is to learn from what worked and what did not work during the procurement processes. Application of this knowledge to other areas within the current project and to other projects within the performing organization is then possible.

Completing Contract Closeout

A contract file is a complete indexed set of records of the procurement process. It is incorporated into the administrative closure process. These records include information on the performance and acceptance of the procured work as well as financial information. The contract can be closed as soon as

it can be assumed that the procured work is acceptable and meets the requirements of the contract. The formal closure of a project comes in a written notice from the contract officer to the seller. The seller is informed that its work is acceptable and that the contract is considered closed by this notice. The size of the project causes the formal closure process to vary accordingly. Contract closeout requirements should be documented within the contract.

Further Reading:

- ✓ *Quentin W. Fleming, (2003), Project Procurement Management: Contracting, Subcontracting, Teaming*
- ✓ *Denise Bower, (2003), Management of Procurement*
- ✓ *Stephen Guth, (2009), Project Procurement Management: A Guide to Structured Procurements*