13 Procurement

Introduction

Many project managers have little experience in procurement, yet the exam will test your knowledge on the procurement process and on procurement types. Even experienced project managers may stumble over the nuances of procurements. For example, an experienced project manager who took an RMC class was upset about a situation where he had arranged a meeting with a seller and the seller had not shown up. After he rescheduled the meeting, the seller still did not show up. When the instructor asked what kind of contract he was working with, the student contacted his office and found out it was a fixed-price contract. The instructor then asked where in the contract it said the seller had to attend such meetings. The student determined that meetings were not listed in the contract. So, why would a seller attend a meeting if he was not getting paid for it?

> **Think about it.** What do you think the project manager's role is in the procurement process?
>
> Think about this question as you go through the rest of this chapter. With the project manager's role in mind, think about how the concepts presented apply to your own experience. By "imagining into reality" those things with which you have no direct experience, you will be better equipped to answer procurement questions on the exam.

A project manager should have the basic procurement management skills required, including the ability to help create, read, and manage contracts and any supporting documentation. If you have worked with contracts before, you might have to fine-tune your knowledge by learning some new terms and by understanding the project manager's role a little better.

If you have little or no experience working with contracts, you should obtain from your company's contracts, procurement, or legal department some sample contracts, requests for proposals, and the resulting sellers' proposals. Spend time reviewing them.

Definitions Related to Procurement Management

Procurement

Simply put, procurement is a formal process to obtain goods and services. From a project manager's perspective this is the process of creating and maintaining relationships with parties (sellers) to buy products and services outside the organization. The project manager also ensures the purchased goods or services are integrated into a project's product.

Contracts

Contracts can be written or verbal (although for the exam they should be in writing), are typically created with an external entity, and involve an exchange of goods or services for (usually monetary) compensation. A contract forms the legal relationship between entities, is mutually binding, and provides the framework for how a failure by one side will be addressed and remedied, in court if necessary.

Agreements

The broader term "agreement" includes documents or communications that outline internal or external relationships and their intentions. A contract is a type of agreement, but an agreement isn't necessarily a contract. Imagine that two divisions of a company want to combine resources to achieve a shared objective. They would create an agreement, but likely not a contract. Examples of agreements that are not contracts are the project charter and plan documents, internal service level agreements, memos or letters of intent, letters of agreement, emails, and verbal agreements.

QUICKTEST

- Contracts vs. agreements
- Buyers and sellers
- Procurement Management process
- Centralized/decentralized contracting
- Project manager's role
- Contract types
  - Fixed-price
  - Time and material
  - Cost-reimbursable
  - Indefinite Delivery, Indefinite Quantity (IDIQ)
- Risk and contract type
- Agile Contracts
  - Graduated fixed-price
  - Fixed-price work packages
  - Not-to-exceed time and material
  - Early termination
- Sharing ratio
- Nondisclosure agreement
- Standard contract
- Special provisions
- Terms and conditions
- Incentives
- Make-or-buy analysis
- Logistics and supply chain management
- Source selection analysis
- Procurement SOW
- Bid documents
- Noncompetitive forms of procurement
- Bidder conference
- Seller proposal
- Proposal evaluation
- Weighting system
- Independent cost estimates
- Presentations
- Negotiations
- Selected sellers
- Closed procurements
- Product validation

How the project manager communicates, escalates, and solves problems will vary depending on whether their actions are governed by a contract or an internal agreement. Notifying a seller of a default on a contract term or condition should be done through formal written communication to create a record and ensure appropriate legal action can be taken if necessary. In comparison, failure to meet a term of an internal agreement might be handled in a conversation followed up by an email.

Be prepared to see the terms "contract" and "agreement" on the exam. Understanding whether a situational exam question describes an internal agreement or a contract might help you select the right answer.

In this chapter, we primarily use the term "contract," because the procurement process is used to acquire necessary resources that are outside the project team and involve legal documents between the buyer and seller.

Buyers and Sellers

The company or person who provides goods or services may be called a contractor, subcontractor, supplier, designer, or seller. The *PMBOK® Guide* primarily uses the term "seller," but the exam may use any of these terms. The company or person who purchases the goods or services is called the buyer. Many companies are a buyer in one procurement and a seller in another. For the exam, assume you are the buyer.

Procurement Management Overview

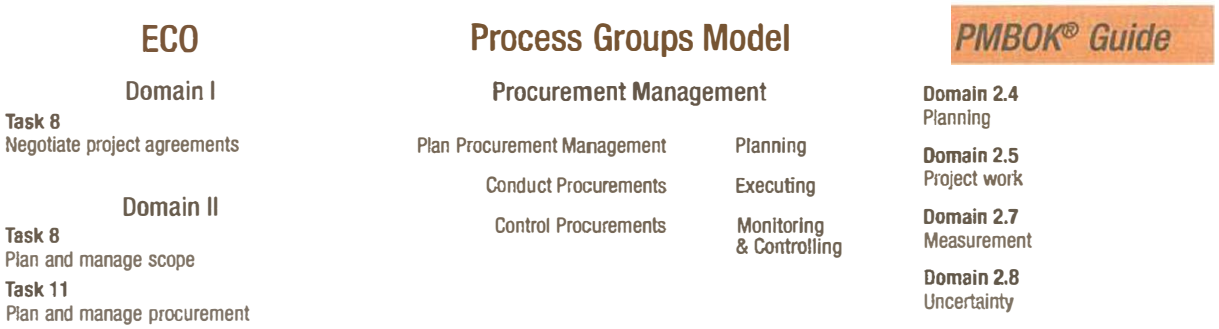
There are many *Examination Content Outline* (ECO) tasks that overlap with procurement. The following chart illustrates that ECO tasks 8 and 11 in domain II map directly to the procurement management process from the Process Groups model. For example, part of defining project scope is to determine whether the entire scope can be completed internally, or if part of it will be outsourced. This analysis results in make-or-buy decisions, which are directly related to project procurements. Managing procurements is in turn essential to managing scope.

Additionally, efficient communications and stakeholder management, and the effective use of interpersonal and team skills, along with conflict management all contribute to procurement management.

The *Examination Content Outline* and Process Groups Model

Think About It. In the ECO, domain II, task 11—Plan and manage procurement—is closely related to the procurement management process as defined in the Process Groups model. Other tasks that closely align to managing procurement include but are not limited to:

- Domain I (People domain), task 8: Negotiate project agreements
- Domain II (Process domain), task 8: Plan and manage scope



Take time to review the ECO and note any additional tasks that may be applicable.

Example

- Execute the project with the urgency required to deliver business value (domain II, task 1)
- Manage communications (domain II, task 2)
- Assess and manage risks (domain II, task 3)
- Support team performance (domain I, task 3)
- Address and remove impediments, obstacles, and blockers for the team (domain 1, task 7)

Can you see how procuring part of the scope of the project can support the team's performance? Efficient communication and stakeholder management certainly apply to procurement management. What other tasks can you recognize as impacting procurements (or that procurements impact)? Really, any of the ECO tasks could be applicable because as a project manager you are doing all the ECO tasks to plan and manage the project and you are procuring a part of the project. Procurements must be integrated completely with the rest of your project. Take time with the ECO to consider this. Doing so will help you become more familiar with the ECO and be more prepared for the exam.

When buying goods or services is part of a project's scope, the project manager facilitates the creation of a plan for procurement. This includes a strategy for how each contract will be managed and a description of the work to be done by each seller (a procurement statement of work). Procurement management includes planning, conducting, and controlling procurements (which may also be summarized as planning and managing procurement), and includes negotiating and managing contracts.

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For some projects, sellers will provide the full solution, rather than just augmenting a project team with additional resources.

Example You might add contract developers to your internal staff to help code software, or alternatively outsource all development work to an external resource who would plan and manage developers, testers, etc.

Managing procurements requires legal knowledge and negotiation skills. Project managers in most organizations are not expected or authorized to lead in legal matters or contract negotiation. You should understand what the procurement experts need from you, provide them with that information, and work with them throughout the project life cycle.

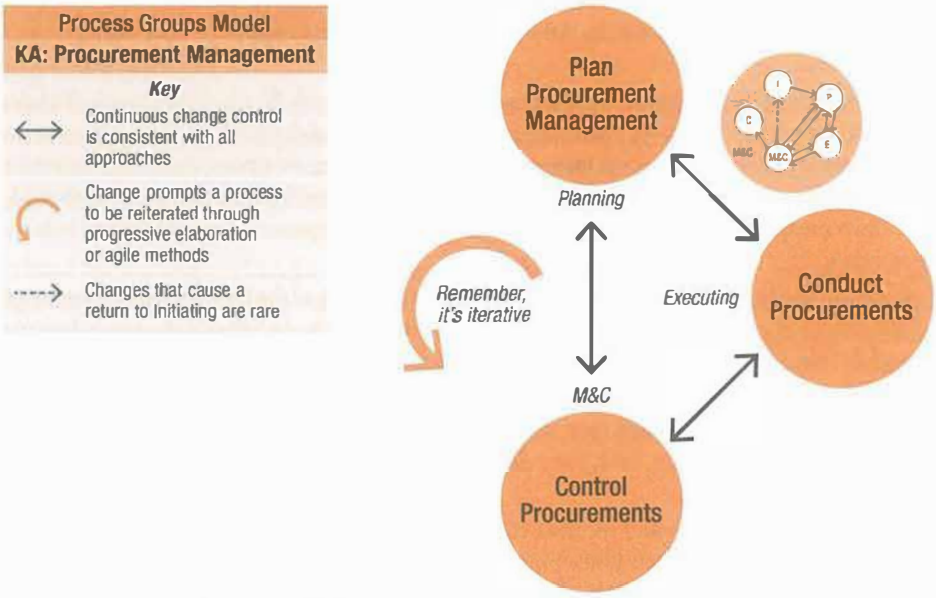

FIGURE 13.1 *Procurement management process*

Desired Outcomes of Procurement Management

The *Process Groups: A Practice Guide* explicitly states only one direct outcome of planning and managing procurements and that is, of course, the effective management of procurements. But there are other outcomes associated with accomplishing this effective management.

As with all processes you should assume for the exam that procurement management has been properly planned according to what you learn in this chapter unless a question indicates otherwise. This means the project manager has given the following considerations in planning and managing procurements on the project:

- On each procurement itself, the contractor performs to the plan with efficient and appropriate processes.
- Procurements are planned and integrated efficiently into other project constraints, requirements, and deliverables.
- Changes related to procurement are efficiently and holistically managed with regard not only to scope but to all project constraints, through integrated change control and written contract changes as necessary.
- Time spent planning and managing procurements are appropriate to each procurement situation.

Spend a moment reviewing figure 13.1, which shows the procurement management process from the Process Group model perspective. This will help you to understand the procurement process in general, and where you are in the process as you read the following sections and prepare for plan-driven exam questions.

Here's an example of how the procurement process would work.

Example HeartCare Medical has assigned a project manager to develop an instruction manual for a medical device. As part of the development, the instruction manual needs to be translated into ten languages. The company has never done translations before.

- The English version of the content can be developed in-house. The project manager and team decide the translations must be outsourced to a translation company (make-or-buy decision).
- A procurement statement of work (SOW) is developed and combined with contract terms to document the scope of work and legal relationship between the buyer and the seller (or translation company in this case). These are first known as bid documents that are later sent to prospective translation companies (sellers).
- For the SOW, the procurement department may review the scope of the work for completeness, and the project manager might add scope related to project management activities such as specific reporting requirements or required attendance at meetings.
- The type of bid document used is influenced by the contract type selected and the content within the procurement SOW. As you will see later in this chapter, different types of contracts require project managers to focus on different areas of management.
- The SOW is sent out to the translation companies (prospective sellers). They will review the bid documents, develop a full understanding of what the buyer wants, then assess any risks and determine whether they will submit a proposal. They may have the opportunity to participate in a bidder conference or a pre-proposal meeting, and may be able to submit questions before the proposal deadline. All questions should be in writing and should relate to the bid documents. Buyer responses must be shared with all translation companies to ensure that all bids will be based on the same information.
- If the scope is incomplete or unclear, if a translation company is aware of the buyer having a history of poorly managing projects, or if any other risks are identified, a translation company may decide not to respond, or may adjust the price and/or schedule submitted to the buyer to account for these risks.
- Because they are working with a fixed-price contract (a fixed fee is required), the translation companies should include these risks in the total detailed cost estimate, as well as other costs, such as overhead, and then add profit to come up with a bid or quote. In any case, the risk of the project is formally or informally assessed before sending the bid or proposal to the buyer.
- After HeartCare Medical (the buyer) receives competing proposals, they may shorten the candidate list or ask for presentations from all the candidates. Once presentations are completed, a preferred translation company is selected and negotiations take place. These negotiations require the involvement of the project manager. The procurement SOW, terms and conditions, and other components of the bid documents are negotiable. Finally, a translation company is selected, a contract is signed, and other procurement management artifacts are updated accordingly.

- Managing the procurement involves making sure the requirements of a contract are met, controlling the contract, and making only approved changes. The procurement department helps the project manager resolve questions such as, "What is and is not in the contract?" or "What does a particular section of the contract really mean?"
- When the procurement's work is complete and after the buyer accepts the final deliverables (the instruction manual in ten languages), the procurement is closed as soon as possible. This can happen within any phase of the project life cycle, as the contracted work is completed. For example, the selected translation company (seller) completes the Spanish and French translations two months earlier than the other eight languages. If there are separate contracts per language, the Spanish and French contracts can be closed.
- Activities to close out a procurement include an analysis of the procurement process to determine and document lessons learned (formally called a procurement audit). Final reports are submitted and final payment is made.

Could you now describe the procurement process and relationships to someone else? Be sure you understand this overview before continuing with the chapter.

Detailed Outcomes

The following outcomes should be assured by appropriate attention to procurement management:

- The project is planned and executed holistically with procured product and service components integrated seamlessly into the product of the project.
- Procurement audits demonstrate that the procurement processes and procedures used on the project were appropriate, or progress toward continuous improvements has been made including documenting what needs to be done differently in the future.
- Project management assures that contract specifications are appropriate to the needs of the project and that sellers on the project perform according to their contracts.
- Procurements are closed appropriately as the work of each contract is completed, verified by the seller and validated by the buyer.

Understanding Contracts

This section covers enterprise environmental factors for managing contracts, the project manager's role, types of contracts, and managing procurements using different types of contracts.

The Contracting Environment

For the exam, assume there is a centralized contracting environment unless otherwise stated. In a centralized contracting environment there is one procurement department. The procurement manager reports to the head of the procurement department and they may handle procurements on many projects. The project manager contacts the procurement manager or department when they need help or to ask questions and knows what authority the procurement manager has in each situation.

In a decentralized contracting environment, there is no procurement department or procurement manager assigned. The project manager may be responsible not only for planning and managing procurement but also for conducting all work on procurements. There may be little standardization of procurement processes and contract language without a procurement department to regulate standards and improve knowledge in procurement management.

Whether contracting is centralized or decentralized, the project manager is responsible for knowing their required level of involvement. Use the scenario described in the exam question to determine how involved the project manager should be.

The Project Manager's Role in Procurement

You might ask yourself, "If there is a procurement manager, why would a project manager need to be involved in procurements?" This is an important question, and you must fully understand the answer before you take the exam. Here are a few tricks to help you.

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Remember that it is the project manager's project. The project manager must be fully informed and apply their expertise for the organization to fully realize the project's benefits. This trick is important for all processes and typically a large percentage of the questions on the exam focus on testing whether you know what you should do.

Here is a quick summary. Do not memorize it; instead, make sure you understand it.

- Know the procurement process so you understand what will happen when and can make the necessary plans.
- Make sure the contract includes all the scope of work and project management requirements, such as attendance at meetings, reports, actions, and communications deemed necessary to minimize problems and miscommunications with the seller(s).
- Incorporate allocation and mitigation of risks into the contract to decrease risk.
- Help tailor the contract to the unique needs of the project.
- Ensure sellers have the right information and are set up for success.
- Estimate the time and cost of each procurement, including what is required to complete the process. Include these estimates in the project schedule and budget.
- Be involved during contract negotiations to protect the relationship with the seller and promote the best interests of the project.
- Define quality requirements for and check the quality of goods and services from sellers.
- Remove impediments by making sure the procurement process goes as smoothly as possible, investigating any issues and taking corrective action.
- Understand what contract terms and conditions mean so you can read and understand contracts.
- Beyond the technical scope, ensure all the work in the contract is done, such as reporting legal deliverables, including the release of liens and ownership of materials.
- Make a formal contract change for anything that is not in the contract.
- Work with the procurement department to manage contract changes.

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Project managers should be assigned on both the buyer's and seller's sides before a contract is signed! Many companies that sell their services make a huge but common mistake by not involving the project manager in the bidding and proposal process. Instead, only marketing and sales are involved until after the contract is signed. The project manager is then handed a project with a contract that may include unrealistic constraints. The project starts out in trouble.

Involving the project manager early in the procurement process is so important that the exam will test you to see if you know when the project manager should be involved and why. The project manager and qualified team members are often uniquely capable of getting answers to many of the technical and project management questions that arise during bidding processes. If the sellers' questions are answered incorrectly or incompletely, there may be an inadvertent change to a specification or the scope of the contract that was never intended by the buyer.

Contract Types

Many different types of contracts can be used to acquire goods and services. Boilerplate contracts or agreements used within an organization are organizational process assets. The procurement manager selects the contract type for each procurement based on the following considerations:

- What is being purchased (a product or a service)
- The completeness of the statement of work
- The level of effort and expertise the buyer can devote to managing the seller
- Whether the buyer wants to offer the seller incentives
- The marketplace or economy
- Industry standards for the type of contract used

Although the buyer initially proposes the contract type, the final contract type is subject to negotiation with the seller. The best contract type meets the needs of the procurement, results in reasonable seller risk, and provides the seller with the greatest incentive for efficient performance.

The three broad categories of contracts are:

- Fixed-price (FP)
- Time and material (T&M)
- Cost-reimbursable (CR)

Situational questions on the exam may require you to recognize that the project manager's responsibilities and actions will vary depending on the type of contract being used. There may also be questions that require you to pick the most appropriate contract type based on a particular situation. Carefully think through this section!

Fixed-Price Contract (FP)

A fixed-price contract should be used for acquiring goods, products, or services with well-defined requirements or specifications. In general, with a fixed-price contract, a clearly defined SOW along with competing bids mean you're likely to get a fair and reasonable price. This is one of the most common contract types used, though it's more likely to be used in construction than in something like information technology.

If the costs are more than the agreed-upon amount, the seller must bear additional costs. Therefore, the buyer has the least cost risk in this type of contract because the scope is well-defined. Note, however, that when fixed-price contracts are entered into and the SOW is not sufficiently detailed, claims and disputes over what is in and out of the contract create higher risk of cost overruns or delay.

The seller is most concerned with the procurement SOW in a fixed-price contract, since this will help them more accurately estimate time and cost for the work involved and determine a price that includes a fair and reasonable profit. The amount of profit is not disclosed to the buyer.

For the exam, be aware that even though the buyer may prefer a fixed-price contract to control costs, it is not always the best choice, and in some cases, it may be inappropriate. Sellers in some industries may not have the detailed accounting records of past project activities required to accurately estimate future projects. Buyers may not have the expertise to prepare the clear and complete procurement SOW required for a fixed-price contract.

Because many buyers are not knowledgeable about contracts, they often ask the seller to provide a fixed price even when the scope of work is not complete and accurate. Think about the following disadvantages if the procurement SOW is not adequate for the seller to make a reasonable estimate:

- The seller is forced to accept a high level of risk.
- The seller needs to add significant reserves to their price to cover risk; therefore, the buyer pays more than they otherwise might have.
- The seller can more easily try to increase profits by cutting scope or claiming that work the buyer wants is outside the contract and thus requires a change order, and the buyer will not be able to state with certainty if it is within the scope of work or needs a change order. If the seller realizes they will not be able to make a profit they may try to take their best people off the project, cut out work that is specifically mentioned in the contract, cut out work that is not mentioned in the contract but is needed, decrease quality, or take other actions to save money.

Here are two of the most common fixed-price contracts. You can read about the rest of them on the RMC Resources page at rmcls.com/rmc-resources.

Fixed-price (FP) In a FP contract, a fixed total price is set for the project, all requirements have been clearly described, and changes to scope should not occur.

Example: Fixed-Price Contract

Contract = $1,100,000.

Purchase Order A purchase order is the simplest type of fixed-price contract. This type of contract is normally unilateral (signed by one party) instead of bilateral (signed by both parties). However, some buyers require the seller's signature on a purchase order before considering it official. In that case, the signature forms the acceptance needed for a contract.

Example: Purchase Order

Contract = 30 linear meters of wood at $9 per meter.

Note: A purchase order is usually used for simple commodity procurements. They become contracts when the buyer accepts the terms. The seller then performs or delivers according to those terms (for example, equipment or products).

Time and Material (T&M)

In this type of contract, the buyer pays on a per-hour or per-item basis. These contracts are frequently used for service efforts in which the level of effort cannot be defined when the contract is awarded. It has elements of a fixed-price contract (in the fixed price per hour) and a cost-reimbursable contract (in the material costs and the fact that the total cost is unknown). Compared to other types of contracts, time and material contracts typically have terms and conditions that are simpler to allow for quick negotiations so that work can begin sooner.

If you were going to have to pay someone on a contract basis for every hour they worked, no matter how productive they were and no matter what they were doing, would you want to do this for a long period of time? Remember, the seller's profit is built into the rate, so they have no incentive to get the work done quickly or efficiently. For this reason, a time and material contract is best used for work valued at small dollar amounts and lasting a short amount of time. Knowing when it's best to use time and material contracts can help you get situational questions right on the exam.

To make sure the costs do not become higher than budgeted, the buyer may add a "Not to Exceed" clause to the contract and thus limit the total amount they are required to pay. With a time and material contract, the buyer has a medium amount of cost risk as compared to cost-reimbursable and fixed-price contracts.

Example: Time and Material Contract

Contract = $100 per hour plus expenses or materials at cost.

Or

Contract = $100 per hour plus materials at $5 per linear meter of wood.

Cost-reimbursable (CR)

A cost-reimbursable contract is used when the exact scope of work is uncertain and, therefore, costs cannot be estimated accurately enough to effectively use a fixed-price contract. This type of contract provides for the buyer to pay the seller allowable incurred costs to the extent prescribed in the contract. Such contracts also typically include an additional fee or award amount added to the cost to allow for seller profit.

A cost-reimbursable contract requires the seller to have an accounting system that can track costs by project. With a cost-reimbursable contract, the buyer has the most cost risk because the total costs are unknown. The seller provides an estimate to the buyer; the buyer can use the estimate for planning and cost management purposes, but it is not binding. What is binding is the buyer's responsibility to compensate the seller for legitimate costs for work and materials as described in the contract. Research and development or information technology projects in which the scope is unknown are typical examples of cost-reimbursable contracts.

Types of cost-reimbursable contracts include cost, cost plus fixed fee, cost plus incentive fee, cost plus award fee, cost plus fee, and cost plus percentage of costs. Here is one of the most common cost-reimbursable contracts. You can read about the others at the RMC Resources page at rmcls.com/rmc-resources.

RMC RESOURCES

Cost Contract A cost contract is one in which the seller receives no fee (profit). It is appropriate for work performed by nonprofit organizations.

Example: Cost Contract

Contract = Cost for work and materials. There is no profit. The seller is reimbursed but does not make a profit.

Indefinite Delivery, Indefinite Quantity (IDIQ) Contract

This type of contact provides for an indefinite number of goods and services within a fixed time frame and within a certain cost range. For example, an architect may be hired for a period of one year to be available for any issues that arise as an office building is being built. The amount of service needed is undefined, but the contact length is set. Even if no services are needed, the seller will be paid the minimum amount stated in the contract. This contract type is used most often in engineering or information technology.

The risk on this type of contract is equally split. If the seller's goods or services are not needed in the allotted timeframe, then the buyer accepts the risk (they have to pay out the minimum amount anyway). If the seller provides more goods and services than anticipated, they will accept the risk since their fee is capped.

Example: Indefinite Delivery Indefinite Quantity

Contract = One-year contract for a minimum of $10,000 and a maximum of $18,000.

Risk and Contract Type

Here is an overview of who takes on risk for the contract types.

- **Fixed-price contract** The seller takes on most or all the risk.
- **Cost-based contract** The buyer is assuming the risk in this type of contract.
- **Time and material contract** Risk is shared between the seller and buyer.

Advantages and Disadvantages of Each Contract Type

Do you understand what you just read? Can you answer the following questions?

- You do not have a finalized scope. Which contract type is best?
- You do not have a complete scope of work, but you have a fixed-price contract. What problems can you expect to run into?

13.1 Exercise

In your Exercise Notebook, write the advantages and disadvantages of each form of contract from the perspective of the buyer. The forms are:

- Fixed-price
- Time and Material
- Cost-reimbursable

Answer

There can be more answers than listed here. Did you identify and understand these?

Fixed Price Contract

Advantages	Disadvantages
– This requires less work for the buyer to manage.	– If the seller underprices the work, they may try to make up profits by charging more than is necessary on change orders.
– The seller has a strong incentive to control costs.	– The seller may try to not complete some of the procurement statement of work if they begin to lose money.
– Companies usually have experience with this type of contract.	– This contract type requires more work for the buyer to write the procurement statement of work.
– The buyer knows the total price before the work begins.	– This can be more expensive than a cost reimbursable contract if the procurement statement of work is incomplete. The seller also needs to add to the price of this contract to account for the increased risk.

Time and Material Contract

Advantages	Disadvantages
– This type of contract can be created quickly because the statement of work may be less detailed.	– There is profit for the seller in every hour or unit billed.
– The contract duration is brief.	– The seller has no incentive to control costs.
– This is a good choice when you are contracting people to augment your staff.	– This contract type is appropriate only for work involving a small level of effort.
	– This contract type requires a great deal of day-to-day oversight from the buyer.

Cost-Reimburseable Contract

Advantages	Disadvantages
– This contract type allows for a simpler procurement statement of work.	– This contract type requires auditing the seller's invoices.
– This contract type usually requires less work to define the scope than a fixed-price contract.	– This contract type requires more work for the buyer to manage.
– This is generally less costly than a fixed-price contract because the seller does not have to add as much for risk.	– The seller has only a moderate incentive to control costs.
	– The total price is unknown.

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A trick for the exam is to realize that buyers must select the appropriate type of contract for what they are buying.

Remembering the following general rules for situational questions involving contracts can help you get more questions right on the exam.

- Contracts require formality. Correspondence, clarification, and notifications related to contracts should be formal written communication. If issues develop requiring arbitration, mediation, or litigation, formal written communications are more enforceable and supportable than are verbal communications.
- All product and project management requirements for procurement work should be specifically stated in the contract.
- If it is not in the contract a formal change order to the contract is needed for the work to be done.
- If it is in the contract it must be done or a formal contract change order to remove it is needed.
- Change requests to contracts must be submitted in writing.
- Contracts are legally binding; the seller must perform as agreed in the contract or they are in breach of contract.
- Contracts should help diminish project risk.
- Most governments back contracts within their jurisdiction through a court system for dispute resolution.

Agile Procurement and Contracts

Procurement on agile projects is additionally challenging since scope is emerging. It may be difficult to sufficiently determine requirements up front for many contractors proposing for the work. The agile manifesto promotes "customer collaboration over contract negotiation" (see "Agile Methodologies" chapter). So agile contracting is built on relationships and ensuring that contracts are fair and equal. However, that doesn't mean that a handshake is enough; the traditional fixed-price contract especially has its limits for an agile project. Here are a few example contracts tailored to agile:

- **Graduated fixed-price** This contract has a fixed price based on completion by a certain date. If the work is completed before the target date, the seller is paid a higher fee, basically the fixed price plus a bonus. If the work is completed after the target date, the seller is paid at a fee lower than the fixed price. This incentivizes early delivery.
- **Fixed-price work packages** The contract can be paid in increments when work packages are delivered, rather than paid as one lump sum at the end of the contract.
- **Not-to-exceed time and material** This is a time and materials contract that has a ceiling price for the work. It cannot go over this amount.
- **Early termination** This allows the buyer to cancel the contract early, for a cancellation fee, if it is discovered they no longer need the deliverable from the seller.

On agile projects it is ideal to partner with a seller who also operates agile teams, because the contractor will understand the project better and be better able to deliver iteratively and incrementally if that is what is needed from them. They will at least understand the way the project will operate. In any case, project managers on agile projects should promote agile principles and practices to the extent possible with partners providing goods or services. When working with an agile contract, sellers may be involved in providing feedback on increment deliverables, prioritizing the backlog, and ranking the value of change requests on work.

That said, many lessons from the Process Groups model for procurement can be used in agile environments. A contract professional, like a lawyer or contract officer within the organization should be involved in contracting, for example. In agile and predictive environments alike, organizations usually have strict policies and procedures related to contracts. In a hybrid environment, there can be a master contract for most of the contracted work and a supplement for any adaptive parts of the contract. This allows the flexibility needed for the adaptive work packages.

Additional Contracting Terms to Know

Here are some contracting terms you might see on the exam. You can find more contracting terms that are good for a project manager to know on the RMC Resources page at rmcls.com/rmc-resources.

- **Sharing ratio** Incentives are usually expressed as a ratio, such as 80/20. This sharing ratio describes how the cost savings or cost overrun will be shared; the first number represents the buyer portion and the second number represents the seller portion (buyer/seller).
- **Nondisclosure agreement** For many procurements, there is a great need for confidentiality. Such a written agreement between the buyer and prospective sellers identifies the information or documents they will control and hold confidential; it also details who in the organization will have access to the confidential information. With a nondisclosure agreement in place, the buyer can talk more openly about their needs without fear that the public or one of the buyer's competitors will gain access to the information.
- **Standard contract** Commonly created by the buyer, standard contracts are usually drafted—or at least reviewed—by lawyers and generally do not require additional review if used for the purpose for which they were intended. You should understand standard contracts, but also realize the project manager's role in special provisions (described next).
- **Special provisions (special conditions)** The project manager must understand standard terms and conditions but also determine when additions, changes, or deletions from the standard provisions are required. By facilitating necessary adjustments, the project manager can make sure the resulting contract addresses the needs of the project. The project manager (remember when taking the exam that you are the buyer's project manager, unless a question states otherwise) meets with the procurement manager (if there is one) to discuss the needs of the project and to determine the final contract terms and conditions.

  Additions, changes, or deletions are sometimes called special provisions and can simply pertain to the type of project and project requirements, risk analysis and administrative, legal, or business needs.
- **Privity** This simply means a contractual relationship. The following explains privity and shows how questions on this topic may be asked.

Question:

Think About It. Company A hires company B to do some work. Company B subcontracts to company C. The project manager for company A is at the job site and tells company C to stop work. Generally, does company C have to listen?

Answer:

No. Companies C and A have no contractual relationship. Company A needs to talk to company B, who needs to talk to company C.

Can you see how this would be important to understand? Any directive that the project manager from company A may give to company C can cause liability for company A. For example, company A may have to pay delay claims to company B, plus the costs of delay to company C if company C stopped work at company A's direction.

Terms and Conditions

There are many terms and conditions associated with procurements that may be considered. Let's start out with a story to better understand some of these terms and conditions.

Think About It. A project manager (the buyer) needed their team members trained on some equipment. They contacted a seller to do the work and then had their procurement department send the seller a contract. Meanwhile, the project manager arranged for team members to travel for the training. There were terms and conditions in the contract that said the buyer would have rights to create derivative works and copy handouts from class. The handouts were proprietary and already copyrighted. The seller could not and would not sign the contract. The class had to be cancelled when many people were already on planes to attend the training.

Whose fault was this? The project manager should have made sure the procurement department understood what they were buying and also should have looked at the contract before it was sent to make sure its language was accurate.

Creating a contract requires the involvement of both the project manager and the procurement manager. Do you work with a procurement manager to review contracts on your projects?

The following are categories of terms and conditions that can make up standard or special provisions. You can find more of these on the RMC Resources page at rmcls.com/rmc-resources. Be familiar with these concepts and what impacts they would have on a contract. The exam will often simply use these terms in sentences such as, "There was a force majeure," and you'll need to understand what that means (force of nature, like a flood or a fire). Conversely, you need to know that "There was a flood that made the seller unable to perform," describes a force majeure.

- **Assignment** This refers to the circumstances under which one party can assign its rights or obligations under the contract to another.
- **Breach/default** This occurs when any obligation of the contract is not met. Watch out—a breach on the seller's part cannot be fixed by a breach on the buyer's part. For example, failure to complete an item in the procurement statement of work (seller's breach) cannot be handled by the buyer stopping all payments (buyer's breach).

  A breach is an extremely serious event. The exam may present situations in which seemingly little things in the contract are not done. The response to a breach must always be to issue a letter formally notifying the other party of the breach. The project manager must understand the legal implications of their actions. If they do not watch out for and send an official notice of breach, the project manager's company could lose its right to claim breach later.
- **Force majeure** This refers to a situation that could be considered an "act of nature," such as a fire or freak electrical storm, and it is an allowable excuse for either party not meeting contract requirements. If a force majeure occurs, it is considered to be neither party's fault. It is usually resolved by the seller receiving an extension of time on the project. Who pays for the cost of the items destroyed in a fire or other force majeure? Usually the risk of loss is borne by the seller and is hopefully covered by insurance. (See also "Risk of loss" below.)
- **Indemnification (liability)** Who is liable for personal injury, damage, or accidents?
- **Intellectual property** Who owns the intellectual property (for example: patents, trademarks, copyrights, processes, source code, or books) used in connection with or developed as part of the contract? This may include warranties of the right to use certain intellectual property in performance of the contract.
- **Management requirements** Examples of management requirements include attendance at meetings and approval of staff assigned to the project.
- **Material breach** This breach is so large that it may not be possible to complete the work under the contract.
- **Retainage** This is an amount of money, usually 5 percent or 10 percent, withheld from each payment. This money is paid when the final work is complete. It helps ensure completion.
- **Risk of loss** This allocates the risk between the parties to a contract in the event goods or services are lost or destroyed during the performance of a contract.
- **Waivers** These are statements saying that rights under the contract may not be waived or modified other than by express agreement of the parties. A project manager must realize that they can intentionally or unintentionally give up a right in the contract through conduct, inadvertent failure to enforce, or lack of oversight. Therefore, a project manager must understand and enforce all aspects of the contract, even if a procurement manager is involved in administering the contract.

Incentives

Sellers are usually focused on the profits, while buyers are focused on cost, performance, schedule, or a combination of these. Incentives are used to bring the seller's objectives in line with the buyer's and to motivate the seller towards efficiency. Think of an incentive as a bonus for the seller. The buyer will provide an additional fee if the seller meets some cost, performance, or schedule objectives.

Can you see how incentives can change the focus of the seller's work? If there is an incentive for cost savings, then the work is to complete the project and to look for cost savings. If the incentive is for some increased level of performance (for example, the system can handle more capacity than contracted for), then the work is to complete the project and to look for ways to increase performance. The seller gains profit from both activities.

13.2 Exercise

Answer the following questions for each of the contract types (cost-reimbursable, time and material, and fixed-price). Write the answers in your Exercise Notebook. (This is the most challenging exercise in this chapter. The questions are meant to be very difficult in order to further test your knowledge.)

Question

1. Generally, what is being bought? (Product or service)
2. How might the costs to the buyer be stated in the contract?
3. How might the profit be stated in the contract?
4. What is the cost risk to the buyer? (High, medium, low, none)
5. How important is a detailed procurement statement of work? (High, medium, low, none)
6. What industry uses this contract type most frequently?
7. How much negotiation is usually required to sign the contract after receipt of the seller's price? (High, medium, low, none)
8. What level of effort and expertise will the buyer need to devote to managing the seller? (High, medium, low, none)
9. How are costs billed to the buyer?
10. How much auditing of the seller's costs will the buyer need to do? (High, medium, low, none)

Answer

Compare the answers in the following table to your answers.

	Cost- Reimbursable	Time and Material	Fixed-Price
1.	Service (some products may be included)	Service	Product
2.	Costs are variable, but the fee/ profit is fixed (as a set amount or a percentage)	Hourly rate or price per unit	As a set currency amount (e.g., $1 million)
3.	Listed separately, and known to the buyer	Included in the hourly rate, and may be unknown to the buyer	Included in the price, and unknown to the buyer
4.	High; increases in costs are reimbursed by the buyer	Medium; although the costs are not fixed, they are known per unit, and this contract type is used for small purchases for a limited time	Low; increases in costs are borne by the seller
5.	Low; the procurement statement of work only needs to describe the performance or functional requirements, since the seller provides the expertise on how to do the work; the buyer pays all costs, so there is less need to finalize the scope	Low; this type traditionally has very little scope, and may only describe skill sets required	High; the procurement statement of work must be complete so the seller knows exactly what work needs to be done in order to come up with an accurate price to complete the work

	Cost- Reimbursable	Time and Material	Fixed-Price
6.	IT, research and development, and knowledge work; when the work has never been done before (as is often the case in these industries), the seller cannot fix a price; therefore, this is the best form to use	When hiring people for an hourly rate, you are usually hiring services, such as legal, plumbing, or programming	Complete scope of work is most common in the construction industry
7.	High; all estimated costs are looked at to calculate the fee to be paid	Low or none	None
8.	High	Medium	Low
9.	Actual costs as incurred; profit at project completion, or apportioned as allowed in the contract	Hourly or per unit rate (which includes all costs and profit)	Fixed price (which includes profit) according to a payment schedule as work is completed and as allowed in the contract
10.	High; all costs must be audited, and there will be a large number of invoices	None; there may be an audit of work hours completed against those billed, but that will take little effort	Low; since the overall contract costs are fixed, auditing usually focuses on making sure work is completed, not looking at detailed costs and receipts

Plan Procurements

The Plan Procurement Management process answers these questions: "How will make-or-buy analysis be performed?" "What goods and services do we need to buy for this project?" "How will we purchase them?" "Who are potential sellers to consider?"

Planning involves putting together the bid documents that will be sent to prospective sellers describing the buyer's need, how to respond, and the criteria the buyer will use to select a seller. Planning the procurement process includes the following:

- Performing make-or-buy analysis
- Creating a procurement management plan
- Creating a procurement strategy for each procurement
- Creating a procurement statement of work for each procurement
- Selecting the appropriate contract type for each procurement
- Creating the bid documents
- Determining the source selection criteria

Process Groups Model
PG: Planning
Process: Plan Procurement Management

ECO
Domain II
Task 11 Plan & manage procurement

PMBOK® Guide
Domain 2.4 Planning
Domain 2.5 Project Work

What are the things you need to plan for procurements? When planning procurement management, it is important to consider business documents like the benefits management plan and the business case. You also need the project charter; components of the project management plan like the scope and schedule baselines and scope, quality, and resource planning documents; project documents; and any relevant enterprise environmental factors and organizational process assets.

The project charter provides any preapproved financial resources, while other project documents provide the following:

- Milestone list
- Project team assignments
- Requirements documentation (including a requirements traceability matrix)
- Resource requirements
- Risk register
- Stakeholder register
- Procurements already in place

Enterprise environmental factors for procurement include marketplace conditions, the services that are available to be purchased, and the existing culture and structures surrounding the organization's approach to procurements. Relevant organizational process assets can include procurement procedures and documents, standard contract types used by the organization, statement of work templates, lessons learned from past procurements and projects. A preapproved (or prequalified) seller list and master service agreements, if they exist, are also useful.

A preapproved seller list speeds up the process by helping ensure the sellers' qualifications are well researched. The procurement documents are sent only to the preapproved sellers. Master service agreements are contracts between two parties including standard terms that will govern future transactions—a time-saving approach when a buyer frequently works with the same seller because overall terms of working together are already agreed to and signed by both buyer and seller.

Methods for Planning Procurement Management

Make-or-Buy Analysis

During planning, you must decide whether the scope and work of the project will be completed within the organization or if some of it will be outsourced. It's important to ask questions such as, "How are resources currently distributed?" and "What are the capabilities of our resources?" Make-or-buy analysis is done early in the planning phase of the project, and results in a make-or-buy decision.

Logistics and Supply Chain Management

An important consideration in make-or-buy analysis is the required lead time for materials and equipment to be purchased. Specialty items, custom products, and items ordered internationally will take more time, which must be built into the project schedule.

Economic Measures

Economic measures similar to those used in project selection and defined in the "Project Management Foundations" chapter may support make-or-buy decisions. Examples include payback period, ROI, IRR, discounted cash flow, and NPV.

Expect to see questions on the exam that refer to make-or-buy analysis, or even questions that require you to calculate buy-or-lease situations, like the following question.

Think About It. You are trying to decide whether to lease or buy an item. The daily lease cost is $120. To purchase the item, the investment cost is $1,000; the daily maintenance cost is $20. How long will it take for the lease cost to equal the purchase cost?

Answer:

Let D equal the number of days when the purchase and lease costs are equal.

$120D = $1,000 + $20D

$120D – $20D = $1,000

$100D = $1,000

D = 10

The calculation says that the costs are the same after 10 days. Therefore, if you are planning to use the item for fewer than 10 days, you should lease. Otherwise it would be cheaper to buy the item.

Source Selection Analysis

Project constraints are factors in seller (or source) selection. For example, is schedule the most important criteria or is cost the critical factor? You may want to review the project constraints in the "Project Management Foundations" chapter.

Other source selection criteria are used and, as in project constraints, some are often weighed more heavily over others. If the buyer is purchasing a commodity, such as linear meters of wood, the source selection criteria may just be the lowest price. If the buyer is procuring construction services, the source selection criteria may be price plus experience. If the buyer is purchasing services, the source selection analysis criteria may include:

- Number of years in business
- Financial stability
- Understanding of need
- Price or life cycle cost
- Technical expertise
- Quality of past performance
- Ability to complete the work on time

If the organization has a preferred seller list, or a master services agreement with an outside source, that information is also considered when analyzing source selection options.

Artifacts of Plan Procurement

The artifacts of planning for procurement include a procurement management plan. This plan documents or references governance for procurements. It provides guidelines and available tools for make-or-buy and source selection analyses, phase and transition management, and tailoring considerations.

Conducting and controlling procurements are supported by planning, so these aspects are also covered in the plan. Rules and guidelines for procurement roles and responsibilities, bidder conferences, and negotiations are included. The control portion of the plan indicates how contract requirements will be managed, and it provides metrics and information on when and how measurements will be taken, guidelines for resolving disputes, the process for accepting deliverables, and the payments to be made.

Make-or-buy decisions come out of the make-or-buy analysis, as does the procurement strategy. This strategy has three basic elements:

- How goods or services will be delivered to the buyer (for example, will the procurement include subcontractors or an outside service provider)
- Contract selection (for example, will the contract be fixed-price or cost plus; will it include incentives or award fees)
- How the procurement will be carried out for each phase.

Other artifacts of planning procurement include the:

- Procurement statement of work (SOW)
- Source selection criteria
- Independent cost estimates
- Selected types of bid documents

For independent cost estimates the buyer prepares an internal estimate, often using expert judgment to get a benchmark against which to validate the bids received from prospective sellers. The procurement SOW and bid documents were introduced earlier but let's look at them in further detail.

Procurement Statement of Work (SOW)

The complete scope of a procurement is described in a procurement SOW. The project manager uses the same skills for the same outcomes that are expected from the work on the project's scope baseline, since each procurement represents a part of the overall project scope.

Each SOW must be as clear, complete, and concise as possible, yet it must describe all the work and activities the seller is required to complete. This includes all meetings, reports, and communications. It must also detail the acceptance criteria and the process of gaining acceptance. The cost of adding activities later is typically more than the cost of adding them at the beginning of the procurement. Does this make you think about the work required to create a complete procurement SOW?

Remember that the level of detail required for the SOW will influence the selection of the contract type and the creation of the bid documents. It may include drawings, specifications, and technical and descriptive wording.

What does "complete scope of procurement" mean? It depends on what you are buying. Here are some examples:

- **Expertise (e.g., software design or legal services)** The procurement SOW includes functional and/or performance requirements, a timeline, evaluation criteria, and required meetings, reports, and communications.
- **The construction of a building** Specific requirements, outlining things such as the materials to be used, the process that must be followed, and work schedule.
- **Augmenting staff** The project manager will direct these human resources so will need details of what the person will be assigned to create or achieve.

Note: If the procurement is for services rather than products, the procurement SOW may be referred to as terms of reference (TOR). It includes the work the seller will perform, standards the seller is expected to achieve, and the data and services that will be provided to the buyer.

The procurement statement of work may be revised during contract negotiation, but it should be finalized by the time the contract is signed as it is part of the contract. If the procurement SOW is not complete, the seller may frequently need to request clarification or ask for change orders, which can get expensive, and the project manager and/or the procurement manager may find themselves constantly dealing with questions about whether a specific piece of work is included in the original cost or time estimates.

Think about change orders in the context of the procurement strategy and the project plan. In general, contract change orders cost money or cause delay. Bad procurement SOWs can result in overspending and delayed or failed projects.

Bid Documents

After the contract type is selected and the procurement statement of work has been created, the buyer can put together the bid document, which describes the buyer's needs to sellers. The following are types of bid documents.

- **Request for proposal (RFP)** An RFP (sometimes called a request for tender) requests a detailed proposal that includes information on price, how the work will be accomplished, who will do it (along with résumés, in some cases), and company experience.
- **Invitation for bid (IFB)** An IFB, sometimes called a request for bid (RFB), usually requests a total price to do all the work. Think of an IFB as a form of RFP where the work described in the procurement statement of work is detailed enough for bidders to determine a total price.
- **Request for quotation (RFQ)** RFQs request a price quote per item, hour, meter, or other unit of measure.
- **Request for information (RFI)** An RFI might be used before bid documents are created. Responses to the RFI help the buyer identify which companies are qualified to handle the procurement. Buyers can also use RFIs to collect information on what work is possible, for later inclusion in RFPs or IFBs. Remember that the purpose of an RFI is to get information, whereas the purpose of an RFP or RFQ is to buy something.

To provide the seller with as clear a picture as possible of what needs to be done to win the work and what the work involves, bid documents may include the following information for sellers:

- Background information about why the buyer wants the work done
- Procedures for trying to win the work (such as whether there will be a bidder conference, when the responses are due, and how the winner will be selected)
- Guidelines for preparing the response (such as maximum length and topics to address in the response)
- The exact format the response should be in (such as which forms must be filled out and whether email submissions are allowed)
- Source selection criteria—the criteria the buyer will use to evaluate responses from the sellers (such as number of years in business, quality of the response, or price)
- Pricing forms (forms to adequately describe the price to the buyer)
- Procurement statement of work
- Proposed terms and conditions of the contract (legal and business)

Think About It. Proposed contracts are included in the procurement documents. Do you know why? The terms and conditions of the contract represent work that needs to be done, and there are costs associated with that work, including warranties, ownership, indemnification, and insurance requirements. The seller must be aware of all the work that needs to be completed to adequately understand and price the project.

Well-designed bid documents can have the following effects on a project:

- Easier comparison of sellers' responses
- More complete responses
- More accurate pricing
- Decreased number of changes to the project

Sellers may make suggestions for changes to the procurement documents, including the procurement SOW and the project management requirements included in the documents, before the contract is signed. When approved, these changes are issued by the buyer as addenda to the bid documents and will ultimately become part of the final contract.

Noncompetitive Forms of Procurement

Public organizations are generally required by law to follow certain practices regarding competitive procurements and to select a seller in a certain way. Although they might have internal policies to follow, private companies may bypass competitive procurement by using master service agreements or preferred seller lists, in which case they could simply issue a purchase order to obtain goods or services from an approved or preferred seller.

If the project manager does not use a competitive process, they enter one of the following types of noncompetitive procurements:

- **Sole source** In this type of procurement, there is only one seller who can provide the goods or services. They may own a particular patent.
- **Single source** Here, the project manager contracts directly with the preferred seller without going through the full procurement process. The project manager may have worked with this company before, and, for various reasons, they do not want to look for another seller. In some cases, there may be a master service agreement in place between an organization and this seller: an established, ongoing contract.

Other reasons for working with a company as a single source are:

- The project is under extreme schedule pressure.
- A seller has unique qualifications.
- Other mechanisms exist to ensure the seller's prices are reasonable.
- The procurement is for a small amount of money.

If the project manager is entering a noncompetitive procurement, they may save time by eliminating part of the process that comes before bidding but will still have to negotiate to finalize the contract.

Once the make-or-buy analysis and procurement strategy are complete, the contract type has been selected, and a statement of work and bid documents are completed, the project manager is prepared to engage with prospective sellers. The bid documents and supporting documentation are sent, the project manager answers the sellers' questions, possibly holds a bidder conference, and evaluates sellers' responses. The project manager selects a seller using source selection criteria and then negotiates a contract.

Conduct Procurements

Process Groups Model
PG: Planning
Process: Conduct Procurements

ECO
Domain I
Task 8 Negotiate project agreements
Domain II
Task 11 Plan & manage procurement

PMBOK® Guide
Domain 2.4 Planning
Domain 2.5 Project Work

Managing procurements includes carrying out the final strategy for finding a seller and negotiating and finalizing a contract with them. Information from the project management plan, including to-date baselines and other planning documentation, will assist in this process with prospective sellers and in making a final decision for each procurement. Because the process to finalize procurements is ongoing throughout the project, you and the team may be able to make use of lessons learned from prior procurements on the current project or previous projects, which can provide insight into the organization's experiences with sellers. This information can often streamline the process considerably.

Methods for Conduct Procurements

You may use tools and techniques such as advertising to find possible sellers or may send the bid documents to a select list of sellers preapproved by the organization (an organizational process asset). The organization may already have an existing agreement with a particular seller. In this case, you could work with that seller to negotiate terms to add new work to the contract.

Note: The US government and many state and local agencies are required to advertise most of their procurements.

Bidder Conference

For a bidder conference the buyer's side carefully controls communications with prospective sellers to ensure legal integrity, fairness, and consistency in the process. All prospective sellers' questions are documented and sent to all prospective bidders—along with subsequent responses—to make sure everyone has the same information.

Getting answers to questions can be important because many bid documents will include a provision saying that by submitting a bid or proposal, the seller warrants the bid covers all the work. The bidder conference is also an opportunity for the buyer to discover anything missing in the bid documents.

A bidder conference can be key to making sure the pricing in the seller's response matches the work that needs to be done and is, therefore, the lowest price. Bidder conferences benefit both the buyer and seller. It is a good practice for the project manager to attend the bidder conference. The exam often asks what things the project manager must watch out for in a bidder conference. The answers include:

- Collusion
- Sellers not asking questions in front of the competition
- Making sure all questions and answers are put in writing and issued to all potential sellers by the buyer as addenda to the bid documents (ensuring that all sellers are responding to the same procurement statement of work)

Seller Proposal (or Price Quote or Bid)

A proposal is usually the response to a request for proposal (RFP), a quote is usually the response to a request for quote (RFQ), and a bid is usually the response to an invitation for bid (IFB). The proposal (or price quote or bid) represents an official offer from the seller. RFP and RFQ responses describe how the seller will meet the buyer's request. A potential seller's response to an RFI provides information to help the buyer better define their procurement need. Responses to a request for information may trigger the buyer's creation of an RFP or RFQ. Keep in mind that sellers may have many RFPs, RFQs, and IFBs sent to them. They need time to review them and determine which they are interested in responding to. To ensure the best sellers will be interested, the bid documents should be as complete and straightforward as possible.

The buyer's project manager should allow for this time—and the time required for the bidder conference and responses to that as well as the rest of the procurement process—in the project schedule.

Proposal Evaluation

A buyer proposal evaluation committee uses the source selection criteria to assess the ability and willingness to provide the requested products or services. This data analysis technique provides a basis to quantitatively evaluate proposals and minimize the influence of personal prejudices.

To select a seller the buyer may:

- Simply select a seller and ask them to sign a standard contract.
- Ask a seller to make a presentation, and then, if all goes well, move on to negotiations.
- Narrow down ("short-list") the list of sellers to a few.
- Ask the short-listed sellers to make presentations, and then ask the selected seller(s) to go on to negotiations.
- Negotiate with more than one seller.
- Use some combination of presentations and negotiations.

The choice of methods depends on the importance of the procurement, the number of interested sellers, and the type of work to be performed. The sellers' proposals are usually reviewed and compared by the evaluation committee using one or a combination of the formal, structured processes discussed next.

Weighting System

When the responses from sellers have been received, the buyer's evaluation committee will analyze the responses and select a seller to award the contract to or to negotiate with. If the buyer is a public entity and the response is to an invitation to bid, the answer is simple. The work goes to the lowest responsive, responsible bidder. In the case of a proposal, the selection decision is more complicated. The buyer will apply the selection criteria chosen in planning. But which is more important? Price? Competence? Availability? Selection criteria are assigned values based on their relative importance to the procurement. For example, if price is more important, it will be given a higher rating and weight. The buyer's evaluation committee then analyzes seller responses using the weighted source selection criteria.

Example There are no calculations on the exam regarding weighting systems, but the following example should help you better understand the concept.

Seller A			
	A	B	C
Criteria	Weight	Rating for this category (1 to 100)	Category score (column A times B)
Number of years in business	5 percent	50	2.5
Understanding of need	25 percent	80	20
Price or life cycle cost	10 percent	90	9
Technical ability	25 percent	40	10
Ability to complete the work on time	20 percent	30	6
Project management ability	15 percent	30	4.5
Total score for this seller			52

Past Performance History

The buyer may consider both their history with the prospective sellers and feedback from other organizations who have done business with the sellers when determining which seller to award the procurement to.

Independent Cost Estimates

The buyer should compare the seller's proposed cost with an estimate created in-house or with outside assistance during procurement planning efforts. This allows the buyer to discover significant differences between what the buyer and seller intend in the procurement statement of work. Responses that are significantly different from what is expected may indicate an issue with the sellers' understanding of the procurement statement of work.

Presentations

In many cases, some of the sellers will be asked to make presentations of their proposals. This is often a formal meeting of the buyer's and seller's teams. It provides the seller with an opportunity to present their proposal, team, and approach to completing the work. The buyer has an opportunity to see the team they may hire and to ask questions to assess the team's competency. Presentations are used most often for procurements that have cost-reimbursable contracts, but they can be used whenever there is a lot to assess.

Negotiations

The exam typically has a question or two related to contract negotiations and the project manager's involvement. You do not have to be an expert negotiator to pass the exam. But, as you have seen in other chapters of this book, the ability to negotiate is an important interpersonal skill for a project manager. Although the procurement manager or officer generally leads negotiations, the project manager is typically involved. Without the project managers' involvement in negotiations, it is common for a contract to be signed that the project manager later discovers cannot be completed.

It is important for everyone involved in negotiations to understand that the objectives of the negotiations are to:

- Obtain a fair and reasonable price
- Develop a good relationship between the buyer and the seller

A procurement should be a win-win situation. The buyer gets the work completed and the seller makes a reasonable profit. Projects can go bad without this win-win result of negotiation. Negotiation tactics are sometimes represented in situational questions on the exam. Be aware that buyers and sellers may use negotiation tactics such as delaying or withdrawal to get what they want. These are undesirable, of course, and you should have the skills to overcome these tactics.

The main items to address while negotiating a contract can be different depending on what is being purchased. Scope, schedule, and cost are usually negotiated, in that order, although it always depends on project priorities. The clearer the scope definition, the easier it will be for the buyer and seller to come to a realistic agreement on the other items. Other items to be negotiated include risk, risk responsibilities, authority, applicable law (laws from a different state, country, or region should be reflected in the contract), project management process, payment schedule, and quality.

When negotiations are complete, the contract is awarded to the selected seller.

What Do You Need in Order to Have a Legal Contract?

- An offer
- Acceptance
- Consideration (a transfer of something of value, but not necessarily money)
- Legal capacity (separate legal parties that are all legally competent)
- Legal purpose (there is not a legal, enforceable contract for the sale of illegal goods or services)

A contract, offer, or acceptance may be verbal or written, though written is preferred since verbal agreements are difficult to enforce in a court of law.

Artifacts and Results of Conduct Procurements

The key result of the Conduct Procurements process are selected sellers and change requests.

Selected Sellers

After all the work of evaluating responses and negotiating with one or more prospective sellers is complete, a seller is chosen for each procurement. This means the buyer and seller have agreed and signed off on all terms and conditions of the contract, and they will move forward to create the product or service during the Control Procurements process.

Change Requests

The procurement management plan is likely to be iterated. Changes to any plan components, baselines, and other project artifacts are possible. Sometimes during project executing, problems that arise related to the procurement process (for example, a seller who isn't performing) or to other areas of the project (such as risk, quality, schedule, or scope management) require reevaluation of the procurement management plan and make-or-buy decisions. Such planning changes need to be submitted through integrated change control, where they are evaluated against the entire project, and approved, rejected, or deferred.

It is important enough to restate that contracts may be finalized after other project plans are completed and approved. This could trigger the need for changes to any artifact of the overall project, potentially including the scope, schedule, or cost baselines or any other planning documents such as quality, resources, communications, or risk plan components. The preapproved seller list may also be updated based on work done in Conduct Procurements.

Control Procurements

Controlling a procurement once the contract is signed involves managing the legal relationship between the buyer and seller, ensuring that both parties perform as required by the contract, and that each contract is closed when the contract work is completed. The Process Groups model calls this Control Procurements but note again that the ECO considers the entire procurement process be included within the Plan and Manage Procurement task. The work is the same regardless of what each resource calls it. The seller is focused on completing the work while the buyer is focused on measuring the performance of the seller and comparing actual performance to the contract, other procurement documents, and management plans. The exam tends to ask situational questions focusing on what happens after the contract is signed, so this process is an important area on the exam.

Process Groups Model
PG: Planning
Process: Control Procurements

ECO
Domain II
Task 11 Plan & manage procurement

PMBOK® Guide
~~Domain 2.7 Measurement~~

You should understand what problems and issues might affect the management of the project under each contract type. You will need to ensure that all work and legal requirements in the contract are accomplished, however small and seemingly unimportant.

The project manager is continually measuring and assessing project progress as compared to the contract and procurement documentation and management plans. The tools and techniques described later in this section include many ways in which this is accomplished. When variances are identified, they are analyzed and may need to be managed using the integrated change control system. Approved changes will be integrated into the management plans or the contract. Contract changes are handled using the organization's contract change control system, which is an enterprise environmental factor. This system includes change procedures, forms, dispute resolution processes, and tracking systems, and is described in the contract. These procedures must be followed, and all changes should be made formally (in writing).

TRICKS OF THE TRADE® Sometimes exam questions ask how project control is different in a procurement, although it will often not be asked in exactly these terms. These types of questions can be particularly difficult for those with little procurement experience. Getting to a correct answer may include knowing that:

- The seller's and buyer's organizations have different cultures and procedures.
- The seller's objective is to generate revenue while the buyer's objective is to complete the work.
- It is not as easy to see problems on the project when the contracted work is being done in a different location.
- There is a greater reliance on reports to determine if a problem exists.
- There is a greater reliance on the relationship between the buyer's and seller's project managers in terms of resolving issues not covered in the wording of the contract.

Here are some other specific actions the project manager should be doing during this process:

- Interpret what is and what is not in the contract
- Interpret what the contract means
- Resolve disputes
- Make sure only authorized people are communicating with the seller
- Hold procurement performance review meetings with your team and the seller
- Understand the legal implications of actions taken
- Control quality according to what is required in the contract
- Authorize the seller's work to start at the appropriate time, coordinating the seller's work with the work of the project as a whole
- Manage interfaces among all the sellers on the project

The procurement management plan includes the actions the project manager and the team will take to oversee procurements, and the project manager may also review lessons learned to avoid the recurrence of issues experienced in the past. Approved change requests from integrated change control are also implemented in this process.

The milestone list and schedule, scope, and cost baselines are used to confirm that the project is progressing as planned. Also:

- **Requirements documentation** This describes technical and other requirements the procurement is expected to meet.
- **Quality reports** These indicate whether the work of the procurement is within the established quality metrics.
- **Work performance data** This comes from the Direct and Manage Project Work process (in "Integration") and gives the project manager information on costs and the status of project activities, and is used to evaluate seller performance.

In the contracts section we listed advantages and disadvantages of different contract types. The exam will require you to know that management efforts, issues, and potential trouble spots are different under each type of contract, meaning there will be different things the project manager needs to do depending on the type of contract. So with the following exercise, review these concepts and how they affect managing a procurement once the contract is signed.

13.3 Exercise

Hopefully, you have built a strong working relationship with the seller. But what if the seller has financial troubles, changes owners, or did not include pieces of the work in their estimate? In your Exercise Notebook, describe specific things you must watch out for and spend your time managing for these main types of contracts: fixed-price, time and material, and cost-reimbursable.

Answer

This is not a complete list! Think of what other actions may be taken.

Fixed-Price

- The seller cutting scope.
- The seller cutting quality.
- Overpriced change orders.
- Scope misunderstandings.
- Ensure costs are real, incurred costs (not future or potential costs)—unless there is an agreement stating otherwise.

Time and Material

- Day-to-day direction to the seller.
- Get concrete deliverables.
- Ensure project length is not extended.
- Confirm the number of hours spent on work is reasonable.
- Watch for the need to switch to a different form of contract (e.g., you determined a design SOW under a T&M contract and switch to a fixed-price contract for completion of the work).

Cost-Reimbursable

- Audit every invoice.
- Reestimate costs.
- Monitor to confirm the seller's work is progressing efficiently.
- Ensure all costs are applicable and chargeable to your project.
- Watch for the seller adding resources that do not add value or perform real work.
- Look for resources being shifted from what was promised.

Methods for Control Procurements

Methods that can be used to manage procurements include performance reviews, inspections and audits, earned value analysis, and trend analysis.

- **Performance reviews** These include analyzing all available data to verify that the seller is performing as they should. Often, the seller is present to review the data and to discuss what the buyer can do to help advance the work. Together they determine if changes are needed to improve the buyer-seller relationship, the processes being used, and how the work is progressing compared to the plan. Any changes must be agreed upon in writing.
- **Inspections and audits** These may involve walkthroughs of the work site or deliverables reviews to verify compliance with the procurement statement of work. Do deliverables meet specifications? Variances or deviations may trigger change requests. An audit is performed by a team that includes representatives of both the buyer and the seller. The audit is to confirm that the seller's activities comply with approved procurement policies and processes. Variances are identified, formal adjustments are made accordingly, and lessons learned are captured. Note that in agreement with what we say in the "Quality of Deliverables and Products" chapter, inspections are related to deliverables while audits are related to processes, policies, and procedures.
- **Earned value analysis** Measurements identify scope, schedule, or cost variances from the performance measurement baseline. Variances are analyzed to determine their impact on the project. The results may be used to generate reports, forecast future performance, and predict actual completion dates and costs. Change requests may be made based on these results.
- **Trend analysis** This can determine whether performance is getting better or worse. It can be used to determine if preventive actions can prevent significant variances in the future and to develop forecast estimates and estimate at completion.

Contract Interpretation and Managing Conflict

Contract interpretation is never easy and frequently requires a lawyer's assistance. However, the exam may describe a simple situation about a conflict over interpretation of a contract and then ask you to determine the correct answer.

Think About It. Conflict is an important topic that may be addressed in tricky procurement questions. In many cases the procurement manager (or contract administrator) is the only one with authority to change the contract. We have also said that the contract includes the procurement SOW. Think about the needed give and take between the project manager and procurement manager:

- The buyer's project manager may want to initiate a change to the scope or sequence of work identified in the procurement SOW (an area seemingly under the project manager's control).
- They cannot do so without the procurement manager's approval. This adds another layer to the project manager's management activities that you may not have seen if you do not work with procurements.
- Can you see the potential for conflict between the procurement manager and the project manager?

Think About It. Conflict can also occur between the buyer and the seller and may result in the seller submitting a claim against the buyer. A claim is an assertion that the buyer did something that has hurt the seller. The seller is now asking for compensation.

- Another way of looking at this is that a claim is a type of seller-initiated change request.
- Claims can get contentious.
- Imagine a seller that is not making as much profit as they had hoped issuing claims for every action taken by the buyer.
- Imagine the number of claims that can arise if the project manager is working with a fixed-price contract and an incomplete procurement statement of work.
- Claims are usually addressed through the contract change control system. The best way to settle them is through negotiation or the use of the dispute-resolution process specified in the contract.
- Many claims are not resolved until after the work is completed.

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Contract interpretation is based on analyzing the intent of the parties, as reflected in the language of the contract, along with a few guidelines for interpreting that language. One such guideline is that the contract supersedes any memos, conversations, or discussions that may have occurred prior to the contract signing. Therefore, if a requirement is not in the contract, it does not have to be met, even if it was agreed upon prior to signing the contract. The following is an exercise on intent.

13.4 Exercise

Select which choice wins in a contract dispute.

	CHOICE A		CHOICE B
1.	Contract language	Or	A memo drafted by one of the parties describing proposed changes after the contract is signed
2.	Contract language	Or	A memo signed by both parties before the contract is signed that describes what was agreed to during negotiations
3.	Contract terms and conditions	Or	Procurement statement of work
4.	Common definition	Or	The intended meaning (without supplying a definition)
5.	Industry use of the term	Or	Common use of the term
6.	Special provisions	Or	General provisions
7.	Typed-over wording on the contract	Or	A handwritten comment on the contract that is also initialed
8.	Numbers	Or	Words
9.	Detailed terms	Or	General terms

Answer

Check the answers below. Note: The answer to number 3 depends on the Order of Precedence Clause in the contract that describes which terms and conditions take precedence over the others in the event of a conflict between them.

1. A
2. A
3. A or B
4. A
5. A
6. A
7. B
8. B
9. A

Artifacts of Control Procurement

The artifacts resulting from conducting procurements are change requests, procurement document updates, and closed procurements.

Change requests Changes to a contract result when the buyer's needs change while the work is underway, the impacts of the contract changes having been negotiated by the two parties. Contract changes may be requested throughout the procurement process and are handled as part of the project's integrated change control efforts, along with all other project changes. Like other project changes, contract changes need to be analyzed for their impacts on all project constraints.

Constructive changes You should be aware of the concept of constructive changes, which do not result from formal change requests. Rather, constructive changes occur when the buyer, through actions or inactions, limits the seller's ability to perform the work according to the contract. This can include over-inspection or failure to hold up their end of the contract (e.g., failing to review documents or inspect deliverables on time). A simple direction to the seller to perform certain work that may seem minor can result in a constructive change that adds costs if that change is outside the scope of the contract.

Records management system Throughout the process of managing an active procurement, data on the contract and contract performance by both the buyer and the seller is gathered and analyzed. Because a contract is a formal, legal document, thorough records must be kept. A records management system may be used to keep procurement documentation complete, organized, and accessible. Record keeping can be critical if procurement-related actions are questioned after the procurement is completed, such as in the case of unresolved claims or legal actions. Records may also be necessary to satisfy insurance requirements.

For many projects, every email, every payment, and every written and verbal communication must be recorded and stored. On other projects, information about the weather and the number of people on the buyer's property each day may be recorded. On large or complex projects, a records management system can be quite extensive and can require a person just to update it, including indexing, archiving, and information retrieval systems.

Closed procurements Finally, procurements are closed as they are completed or terminated. All procurements must be closed out, no matter the circumstances under which they stop, are terminated, or are completed. Closure is a way to accumulate some added benefits, such as lessons learned. Closing a procurement consists of tying up all the loose ends, verifying that all work and deliverables are accepted, finalizing open claims, and financial closure (ensuring payment). The buyer formally notifies the seller the contract has been completed. There may be some obligations, such as warranties, that will continue after the procurement is closed.

Many people who are new to procurement do not realize a contract can be terminated before the work is complete. The contract should have provisions for termination, which can be done for cause or for convenience. When too many changes are required the project manager should see if the existing contract no longer serves the purposes of defining all the work, roles, and responsibilities. It may be best to terminate the contract. The buyer may terminate a contract for cause if the seller breaches the contract (does not perform according to the contract), or simply terminate a contract for convenience if they no longer want the work done.

A seller is rarely allowed to terminate a contract, but it could be appropriate on some projects. In any case, termination can result in extensive negotiations on what costs the buyer will pay. This is controlled by the language of the contract. In a termination for convenience, the seller is usually paid for work completed and work in process. If the contract is terminated for cause due to a default, the seller is generally paid for completed work but not for work in progress. The seller may also be subject to claims from the buyer for damages. Termination is a serious issue, and one that has lasting effects on the project. Termination negotiations can be drawn out long after the work has stopped—highlighting yet another reason why details of the project must be documented.

Some people mistakenly think that the process of closing procurements is part of closing a project or phase. This comes up on the exam. Think of project closure as closing out a project or phase and procurement closure as completing only that particular part of scope that you have procured through a third party. Keep the following tricks in mind:

- There may be many procurements in one project, so there can be many procurement closures, but closing a project or phase only happens at the end of the project or phase.
- Upon completion of the contract for each procurement, the project manager performs a process audit on the contract and the seller's performance before closing out the procurement. When the project as a whole is completed later, the project manager performs the final administrative and financial closure along with other processes required to close out the project.
- Read questions carefully. There may be questions that ask about the frequency of project closure or procurement closure. The way the questions are written will help you select the right answer. For projects that are managed in phases, closing the project or phase occurs at the end of each project phase as well as at the end of the project as a whole. In contrast, procurement closure is done at the completion of each contract.
- To protect the legal interests of both parties, procurement closure requires detailed record keeping and must be done more formally than is generally required for project closure.

Now let's think about the real world. What do you think needs to be done at the end of the procurement in order to say the procurement is indeed finished? Wouldn't it be substantially similar to what needs to be done when you close out a project in the Close Project or Phase process? Be careful on an exam question to be sure whether it is talking about closing a procurement or a project or phase.

13.5 Exercise

In your Exercise Notebook, describe what work must be done during procurement closure.

Answer

As you read the answer, think about how similar closing procurements is to the Close Project or Phase process (although it is not the same process). Procurement closure includes all the following:

- **Product validation** This involves the buyer validating and formally accepting (signing off on) the portion of project scope the seller is providing. It includes checking to see if all the work and documentation was completed correctly and satisfactorily.
- **Procurement negotiation** The final settlement of all claims, invoices, and other issues may be handled through negotiations or a dispute resolution process established in the contract.
- **Financial closure** Financial closure includes final payments and cost records.
- **Procurement process audit** This is a review of the procurement process and capturing lessons learned. Normally this is done by the procurement manager and project manager, but companies that want to improve their processes may also involve the seller.
- **Updates to records** This involves making sure all records of the procurement are complete and accessible. These records will become part of the procurement file (described later in this discussion).
- **Final contract performance reporting** Think of this as creating a final report reflecting the success and effectiveness of the procurement and the seller.
- **Procurement file** Finalizing the procurement file involves putting all emails, letters, conversation records, payment receipts, reports, and anything else related to the procurement into an organized file. This file will be stored for use as historical records. The project manager, with the help of the procurement manager, decides what documents need to be kept.

Expect questions on the exam that describe a situation and require you to determine whether the procurement is closed. In gaining formal acceptance from (you) the buyer, the seller is also working to measure customer satisfaction.

Putting It All Together

That is the procurement process! Was a lot of this new to you? If you are inexperienced in working with procurements, re-read this chapter, and try to visualize how the different topics apply to a large project. Then visualize how it might work on other types of projects. This will help you understand the process better.

Test your knowledge by completing the following exercise. Notice the word "actions" within this exercise. For the exam, you need to know what needs to be done during each step as well as what you have when you are done with a process (outputs or outcomes). This is an important exercise for ensuring that you can successfully answer procurement questions on the exam.

13.6 Exercise

Recreate the procurement management process by making a list in your Exercise Notebook of the key actions and of the artifacts resulting from Plan Procurement Management, Conduct Procurements, and Control Procurements. The answers to this exercise are listed after the next Trick of the Trade®. If you have missed many of the answers, do this exercise a second time after reviewing the material.

TRICKS OF THE TRADE

Here is a trick for understanding the process without memorizing the whole thing—know only the artifacts! If a question describes some activity and that activity occurs after the procurement documents are created and before the contract is signed, then it must be taking place as part of the Conduct Procurements process. If it is taking place during the time after the contract is signed through when the work is substantially done, it must be occurring during the Control Procurements process.

Answer

The following actions and outputs are the ones you should give the most attention to when preparing for the exam.

Key Actions For Each Procurement

Plan Procurement Management

- Perform make-or-buy analysis.
- Create a procurement management plan.
- Create a procurement strategy.
- Create a procurement statement of work.
- Select the appropriate contract type.
- Create terms and conditions, including standard and special conditions.
- Create bid documents.
- Determine source selection criteria.
- Gather and analyze data on prospective sellers, the market, and market price.
- Estimate time and cost for contract and work.
- Make-or-buy decisions.
- Procurement management plan.
- Procurement statements of work.

Conduct Procurements

- Find potential sellers through advertising, a preapproved seller list, or other means.
- Send procurement documents.
- Hold a bidder conference.
- Answer sellers' questions.
- Receive the seller responses.
- Compare the proposals to the source selection criteria using a weighting or screening system to pick/shortlist the sellers.
- Receive presentations from seller(s).
- Compare to independent estimates.
- Hold negotiations.
- Use interpersonal and team skills, such as negotiation.
- Allocate risk to sellers when appropriate.
- Selected sellers.
- Signed contracts.
- Resource calendars.
- Change requests.
- Project management plan updates.
- Project documents updates.
- Recommendations and updates to the processes and procedures for organizational procurement practices.
- Organizational process assets updates.

Control Procurements

- Understand the legal implications of your actions.
- Hold procurement performance reviews.
- Request changes.
- Administer claims.
- Manage interfaces among sellers.
- Monitor, analyze, and report on performance against the contract.
- Review cost submittals, and make payments.
- Perform inspections and audits.
- Maintain records of everything.
- Manage relationships.
- Accept verified deliverables.
- Perform procurement audits.
- Negotiate settlements.
- Create lessons learned.
- Complete final contract performance reporting.
- Validate the product.
- Issue formal acceptance.
- Update records.
- Create a procurement file.
- Perform financial closure.
- Substantial completion of contract requirements and deliverables.
- Work performance information.
- Change requests.
- Project management plan updates
- Project documents updates (including updates to procurement documents).
- Organizational process assets updates.
- Formal acceptance.
- Closed procurements.
- Lessons learned and records updates.

13.7 Exercise

Here is another exercise to review what was discussed in this chapter. To pass the exam, you must understand the project manager's role in procurements. After reading this chapter, describe the project manager's role. Write the answer in your Exercise Notebook.

Answer

As the project manager, you should:

- Know the procurement process so you integrate all procurements into your project.
- Understand what contract terms and conditions mean so you can read and understand contracts.
- Make sure the contract contains all the scope of work and all the project management requirements, such as attendance at meetings, reports, actions, and communications deemed necessary to minimize problems and miscommunications with the seller(s).
- Identify risks and incorporate mitigation and allocation of risks into the contracts to decrease project risk.
- Help tailor the contract to the unique needs of the project while it is being written.
- Include adequate time in the project schedule to complete the procurement process.
- Be involved during contract negotiations to protect the relationship with the seller.
- Protect the integrity of the project and the ability to get the work done by making sure the procurement process goes as smoothly as possible.
- Help make sure all the work in the contract is done—including reporting, inspections, and legal deliverables, such as the release of liens and ownership of materials—not just the technical scope.
- Do not ask for something that is not in the contract without making a corresponding change to the contract.
- Work with the procurement manager to manage changes to the contract.