Chapter 9

Measuring and Controlling Project Performance

THE PMP EXAM CONTENT FROM THE EXECUTING THE PROJECT PERFORMANCE DOMAIN COVERED IN THIS CHAPTER INCLUDES THE FOLLOWING:

☑ Ensure Common Understanding and Set Expectations
☑ Implement Quality Management Plan
☑ Implement Approved Changes
☑ Implement Approved Actions and Workarounds
This chapter wraps up the Executing process group and introduces the Monitoring and Controlling process group. The Executing processes covered in this chapter are Request Seller Responses, Select Sellers, and Perform Quality Assurance. Then you'll move into the Monitoring and Controlling process group and examine several processes, including Monitor and Control Project Work, Contract Administration, Manage Project Team, Manage Stakeholders, and Performance Reporting.

Request Seller Responses and Select Sellers are both Executing processes. They are usually performed in conjunction with the Contract Administration process, which belongs to the Monitoring and Controlling process group. To keep the dividing line even, I'll talk about Request Seller Responses and Select Sellers together and then finish up the Executing process group with Perform Quality Assurance. Then I'll introduce the Monitor and Control Project Work process because it provides the framework for the Monitoring and Controlling process.

The Monitoring and Controlling process group involves taking measurements and performing inspections to find out whether there are variances in the plan. If you discover variances, you need to take corrective action to get the project back on track and repeat the affected project Planning processes to make adjustments to the plan as a result of resolving the variances.

During the Manage Team Project process, you'll monitor the performance of the team, provide feedback to team members, resolve issues, and take actions (when needed) to realign the project team's performance with the goals of the project. The Manage Stakeholders process involves communicating project status and issues and resolving stakeholder issues and concerns. Performance Reporting also concerns communicating information about the project's progress to the stakeholders.

Once again, you have a lot of ground to cover. Grab your favorite beverage and dig in.

**Requesting Seller Responses**

Many times project managers must purchase goods or services to complete some or all of the work of the project. Sometimes the entire project is completed on contract. The Request Seller Responses process is concerned with obtaining responses to bids and proposals from potential vendors.

This process has three inputs:

- Organizational process assets
- Procurement management plan
- Procurement documents
I’ve talked about these in previous chapters. In addition, I’ve discussed organizational process assets in several of the Planning processes covered in previous chapters. You prepared the procurement documents and procurement management plan during the Plan Contracting process. I talked about them in Chapter 6, “Resource Planning.” Procurement documents include requests for proposals (RFPs), requests for information (RFIs), requests for quotations (RFQs), and so on. The vendors—or potential sellers—bear the majority of work in the Request Seller Responses process by preparing responses to the RFPs. Depending on the RFP and the effort needed to respond, costs to the vendor can become quite substantial.

The Request Seller Responses process is used only if you’re obtaining goods or services from outside your own organization. If you have all the resources you need to perform the work of the project within the organization, you won’t use this process.

In the following sections, you’ll examine some new tools and techniques that will help vendors give you a better idea of their responses, and then you’ll move on to the outputs of this process, one of which is the vendor proposal.

**Requesting Seller Responses Tools and Techniques**

Remember that the purpose of the Request Seller Responses process is to obtain responses to your RFP (or similar procurement document). The three tools and techniques of this process are actually designed to assist the vendors in getting their proposals to you:

**Bidder conferences**  *Bidder conferences* are meetings with prospective vendors or sellers that occur prior to the completion of their response proposal. You or someone from your procurement department arranges the bidder conference. The purpose is to allow all prospective vendors to meet with the buyers to ask questions and clarify issues they have regarding the project and the RFP. The meeting is held once, and all vendors attend at the same time. The bidder conference is held before the vendor prepares their responses so that they are sure their RFP response will address the project requirements.

**Advertising**  *Advertising* is letting potential vendors know that an RFP is available. The company’s Internet site, professional journals, or newspapers are examples of where advertising might appear.

**Develop qualified sellers lists**  *Develop qualified sellers lists* is part of the organizational process asset input if they already exist in the organization. If the lists don’t exist, you’ll have to create them. They are lists of prospective sellers who have been preapproved or prequalified to provide contract services (or provide supplies and materials) for the organization. For example, your organization might require vendors to register and maintain information regarding their experience, offerings, and current prices on a qualified seller list. Vendors must usually go through the procurement department to get placed on the list. Project managers are then required to choose their vendors from the qualified seller list published by the procurement department. However, not all organizations have qualified seller lists. If a list isn’t available, you’ll have to work with the project team to come up with your own requirements for selecting vendors.
Request Seller Responses Outputs

The Request Seller Responses process has three outputs: qualified sellers list, procurement document package, and proposals. I talked about developing qualifying seller lists in the previous section. The output here can be the qualified seller lists you used as inputs (as part of the organizational process asset input) if they exist. If they don’t exist, you’ll need to develop them as an input and use them as an output.

The buyer prepares the procurement document package. This is the formal request that’s posted, advertised, or otherwise sent to each of the sellers and is the basis for the seller’s bid. These might be an RFP, RFQ, IFB, and so on.

Proposals are the seller-prepared documents that describe how the vendor intends to meet the needs of your project. And if they’ve done their job correctly, the proposal should detail responses to each of the items as they were outlined in your RFP. These proposals become the input to the next process, Select Sellers. After proposals are prepared and submitted, often vendors are invited to an oral presentation where they provide additional information about their product or service and where buyers can ask questions about the seller’s proposal.

Exam Spotlight

The Guide to the PMBOK makes a distinction between the Request Seller Responses process and the Select Sellers process that you should know for the exam: Request Seller Responses obtains bids and proposals; Select Sellers is the receipt of bids and proposals and evaluating each in order to award a winner.

Selecting Sellers

In the Select Sellers process you evaluate the proposals you’ve received against your predefined evaluation criteria. I defined evaluation criteria in the Plan Contracting process.

Select Sellers has several inputs:

- Organizational process assets
- Procurement management plan
- Evaluation criteria
- Procurement document package
- Proposals
- Qualified sellers list
- Project management plan (risk register and risk-related contractual agreements)
I've covered all of these inputs previously, but you should be aware of a few points. Proposals, as mentioned, are obtained in the Request Seller Responses process and used as an input to the Select Sellers process. Proposals can be divided into sections, including a management section, technical approach section, and pricing section. Remember that although cost might be the primary driver behind your decision, the low-cost provider might not end up being low cost in the end if the provider is unable to deliver the products or services as described and on time. Take the time to evaluate the proposals on more than cost alone.

Evaluation criteria are what you'll use to compare proposals. You developed evaluation criteria as part of the Plan Contracting process in Chapter 6. However, you'll take a little closer look at this topic now since you'll actually be using the criteria during this process.

In practice, you will probably perform Plan Contracting, Request Seller Responses, and Select Sellers all as one process.

**Evaluation Criteria**

You can use evaluation criteria as one method of rating and scoring proposals. Keep in mind this is an input to the Select Sellers process, not a tool and technique, even though you'll be using it as you would a tool and technique.

The types of goods and services you're trying to procure will dictate how detailed your evaluation criteria are. (Of course, if your organization has policies in place for evaluating proposals, then you'll use the format or criteria already established.) The selection of some goods and services might be price driven only. In other words, the bidder with the lowest price will win the bid. This is typical when the items you're buying are widely available.

When you're purchasing goods, you might request a sample from each vendor in order to compare quality (or some other criteria) against your need. For example, perhaps you need a special kind of paper stock for a project you're working on at a bank. This stock must have a watermark, it must have security threads embedded through the paper, and when the paper is used for printing, the ink must not be erasable. You can request samples of stock from the vendors with these qualities and then test them to see whether they'll work for your project.

It's always appropriate to ask the vendor for references, especially when you're hiring contract services. It's difficult to assess the quality of services because it's not a tangible product. References can tell you whether the vendor delivered on time, whether the vendor had the technical capability to perform the work, and whether the vendor's management approach was appropriate when troubles surfaced. Create a list of questions to ask the references before you call.

You can request financial records to assure you—the buyer—that the vendor has the fiscal ability to perform the services they're proposing and that the vendor can purchase whatever equipment is needed to perform the services. If you examine the records of the company and
find that it’s two steps away from bankruptcy, that company might not be a likely candidate for your project. (Remember those general management skills? Here’s another example where they come into play.)

One of the most important criteria is the evaluation of the response itself to determine whether the vendor has a clear understanding of what you’re asking them to do or provide. If they missed the mark (remember, they had an opportunity at the bidder conferences to ask clarifying questions) and didn’t understand what you were asking them to provide, you’ll probably want to rank them very low.

Now you can compare each proposal against the criteria and rate or score each proposal for its ability to meet or fulfill these criteria. This can serve as your first step in eliminating vendors that don’t match your criteria. Let’s say you received 18 responses to an RFP. After evaluating each one, you discover that 6 of them don’t match all the evaluation criteria. You eliminate those six vendors in this round. The next step is to apply the tools and techniques of this process to further evaluate the remaining 12 potential vendors.

Tools and Techniques of Select Sellers

You use the following tools and techniques of Select Sellers to further evaluate vendors:

- Weighting systems
- Independent estimates
- Screening systems
- Contract negotiation
- Seller rating systems
- Expert judgment
- Proposal evaluation techniques

You’ll look at each one in the following sections.

Weighting Systems

Weighting systems assign numerical weights to evaluation criteria and then multiply them by the weights of each criteria factor to come up with total scores for each vendor. According to the Guide to the PMBOK, this tool and technique quantifies the qualitative data to keep personal biases to a minimum. Weighting systems are useful when you have multiple vendors to choose from because they allow you to rank the proposals to determine the sequence of negotiations.

You’ll find an example of a weighted scoring system in Chapter 2, “Creating the Project Charter and Preliminary Scope Statement.” These systems are commonly used to evaluate vendor proposals.
Independent Estimates

Your procurement department might conduct *independent estimates* (also known as *should cost estimates*) of the costs of the proposal and compare these to the vendor prices. If there are large differences between the independent estimate and the proposed vendor cost, one of two things is happening: the statement of work (SOW), or the terms of the contract, was not detailed enough to allow the vendor to come up with an accurate cost, or the vendor simply failed to respond to all the requirements laid out in the contract or SOW.

Screening Systems

*Screening systems* use predefined performance criteria or a set of defined minimum requirements to screen out unsuitable vendors. Perhaps your project requires board-certified engineers. One of the screening criteria would be that vendors propose project team members who have this qualification. If they don't, they're eliminated from the selection process.

Screening systems are used together with two other tools and techniques of this process, weighting systems and independent estimates, to rank vendor proposals.

Contract Negotiation

In *contract negotiation*, both parties come to an agreement regarding the contract terms. Negotiation skills are put into practice here as the details of the contract are ironed out between the parties. At a minimum, contract language should include price, responsibilities, regulations or laws that apply, and the overall approach to the project.

You might see the term *fait accompli* show up on the exam. Fait accompli tactics are used during contract negotiation when one party tries to convince the other party discussing a particular contract item that it is no longer an issue. It's a distraction technique, because the party practicing fait accompli tactics is purposely trying to keep from negotiating an issue and claims the issue cannot be changed. For example, during negotiations the vendor tells you that the key resource they're assigning to your project must start immediately or you'll lose that resource and they'll get assigned work elsewhere. However, you don't know—because the vendor didn't tell you—that the vendor can reserve this resource for your project and hold them until the start date. They used fait accompli tactics to push you into starting the project, or hiring this resource, sooner than you would have otherwise.

Seller Rating Systems

*Seller rating systems* use information about the sellers—such as past performance, delivery, contract compliance, and quality ratings—to determine seller performance. Your organization might have seller rating systems in place, and you should check with your procurement department to see whether they exist for the bidders on your project. Part of the Contract
Administration process (I'll talk about this one later in this chapter) concerns gathering and recording this type of information. Don't use seller rating systems as your sole criteria for evaluating vendors.

**Expert Judgment**

Expert judgment applies here as it has on many of the other processes I've discussed. Include experts from all areas of the organization when evaluating proposals and selecting vendors. Don't forget your legal and financial folks, marketing, sales, engineering, and so on.

**Proposal Evaluation Techniques**

Proposal evaluation techniques are a combination of all the techniques I've just discussed. All techniques use some form of expert judgment and evaluation criteria—whether it's objective or subjective criteria. The evaluation criteria are usually weighted, much like a weighted scoring system, and those participating as reviewers provide their ratings (usually to the project manager) to compile into a weighted proposal to determine an overall score. Scoring differences are also resolved using this technique.

After all the RFPs are examined and scored, you move to the outputs of this process, where sellers are selected and contracts awarded.

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### Real World Scenario

**Vendor Selection for Fitness Counts HR System**

Amanda Jacobson is the project manager for Fitness Counts, a nationwide chain of gyms containing all the latest and greatest fitness equipment, aerobics classes, swimming pools, and such. Fitness Counts is converting its human resources data management system. The RFP addressed several requirements, including the following:

- The new system must run on a platform that's compatible with the company's current operating system.
- Hardware must be compatible with company standards.
- Data conversion of existing HR data must be included in the price of the bid.
- Fitness Counts wants to have the ability to add custom modules using internal programmers.
- Training of Fitness Counts programmers must be included in the bid.

The project team is in the Select Sellers process and has received bids based on the RFP published earlier this month. Fitness Counts is using a combination of selection criteria and weighted scoring model to choose a vendor.
One of the evaluation criteria said that the vendor must have prior experience with a project like this. Four vendors met that criteria and proceeded to the weighted scoring selection process.

Amanda is one of the members of the selection committee. She and four other members on the committee rated the four vendors who met the initial selection criteria. They read all of the proposals and rated the criteria using factors they had predetermined for each. For example, vendors who proposed a SQL database as part of the “Platform” criteria (along with the other predetermined factors) should receive a score of 5. Table 9.1 shows their results.

Vendor C is the clear winner of this bid. Based on the weighted scoring model, their responses to the RFP came out ahead of the other bidders. Amanda calls them with the good news and also calls the other vendors to thank them for participating in the bid. Vendor C is awarded the contract, and Amanda moves on to the Contract Administration process.

**TABLE 9.1 Example Weighted Scoring Model**

<table>
<thead>
<tr>
<th></th>
<th>Platform</th>
<th>Hardware</th>
<th>Data Conversion</th>
<th>Custom Modules/Training</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weighting Factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vendor A</strong></td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Weighting</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Score</td>
<td>15</td>
<td>12</td>
<td>15</td>
<td>16</td>
<td>58</td>
</tr>
<tr>
<td><strong>Vendor B</strong></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Weighting</td>
<td>10</td>
<td>12</td>
<td>20</td>
<td>12</td>
<td>54</td>
</tr>
<tr>
<td><strong>Vendor C</strong></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Weighting</td>
<td>20</td>
<td>16</td>
<td>20</td>
<td>12</td>
<td>68</td>
</tr>
<tr>
<td><strong>Vendor D</strong></td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Weighting</td>
<td>15</td>
<td>12</td>
<td>10</td>
<td>16</td>
<td>53</td>
</tr>
</tbody>
</table>

*1-5, with 5 being highest
Select Sellers Outputs

The Select Sellers process has six outputs:

- Selected sellers
- Contract
- Contract management plan
- Resource availability
- Project management plan updates
- Requested changes

The selected sellers output is obvious; you choose the seller (or sellers) to whom you’ll award the project. I’ll talk more about the contract and the contract management plan next. I’ve discussed the other outputs already.

Elements of a Contract

You might recall that a contract is a legally binding agreement between two or more parties, typically used to acquire goods or services. Contracts have several names, including agreements, memorandums of understanding (MOUs), subcontracts, and purchase orders.

The type of contract you’ll award will depend on the product or services you’re procuring and your organizational policies. I talked about the types of contracts—fixed price, cost reimbursable, and so on—in Chapter 6 if you need a refresher. If your project has multiple sellers, you’ll award contracts for each of them.

The contract should clearly address the elements of the SOW, time period of performance, pricing and payment plan, acceptance criteria, warranty periods, dispute resolution procedures, and so on.

Since contracts are legally binding and obligate your organization to fulfill the terms, they’ll likely be subject to some intensive review, often by several different people. Be certain you understand your organization’s policies on contract review and approval before proceeding.

Contracts, like projects, have a life cycle of their own. You might encounter questions on the exam regarding the stages of the contract life cycles, so you’ll look at this topic next.

Contract Life Cycles

The contract life cycle consists of four stages:

- Requirement
- Requisition
- Solicitation
- Award
These stages are closely related to the following Project Procurement Knowledge Areas processes from the *Guide to the PMBOK*:

- Plan Purchases and Acquisitions
- Plan Contracting
- Request Seller Responses
- Select Sellers

A description of each of the contract life cycles follows.

**Requirement**

The requirement stage is the equivalent of the *Guide to the PMBOK*’s Plan Purchases and Acquisitions process, I discussed in Chapter 6. You establish the project and contract needs in this cycle, and you define the requirements of the project. The SOW defines the work of the project, the objectives, and a high-level overview of the deliverables. You develop a work breakdown structure (WBS), a make-or-buy analysis takes place, and you determine cost estimates.

The buyer provides the SOW when the project is performed under contract to describe the requirements of the project. The product description can serve as the SOW.

**Requisition**

The requisition stage is similar to the *Guide to the PMBOK*’s Plan Contracting process, discussed in Chapter 6.

In the requisition stage, the project objectives are refined and confirmed. Solicitation materials such as the request for proposals (RFP), request for information (RFI), and request for quotations (RFQ) are prepared during this phase. Generally, the project manager is the one responsible for preparing the RFP, RFI, and RFQ. A review of the potential qualified vendors takes place, including checking references and reviewing other projects the vendor has worked on that are similar to your proposed project.

**Solicitation**

The solicitation stage is where vendors are asked to compete for the contract and respond to the RFP. You will use the tools and techniques of the *Guide to the PMBOK*’s Request Seller Responses process during this contract stage. The resulting output is the proposals.

**Award**

Vendors are chosen, and contracts are awarded and signed during the award stage. The equivalent to the award stage in the *Guide to the PMBOK* is the Select Sellers process.

The project manager—or the selection committee, depending on the organizational policy—receives the bids and proposals during the award phase and applies evaluation criteria to each in order to score or rank the responses. After ranking each of the proposals, an award is made to the winning vendor, and the contract is written.
Once you have a contract, someone has to administer it. In large organizations, this responsibility will fall to the procurement department. The project manager should still have a solid understanding of administering contracts because that person will work with the procurement department to determine the satisfactory fulfillment of the contract.

**Contract Management Plan**

The contract management plan describes the contract administrative activities of the project. The plan also outlines how the contract will be administered based on the SOW elements in the contract, delivery requirements, and performance requirements that both the buyer and the seller must meet. The contract management plan is a subsidiary of the project management plan.

**Laying Out Quality Assurance Procedures**

The Quality Planning process laid out the quality standards for the project and determined how those standards are satisfied. The *Perform Quality Assurance* process involves performing systematic quality activities and uses quality audits to determine which processes should be used to achieve the project requirements and to assure they are performed efficiently and effectively.

The project team members, the project manager, and the stakeholders are responsible for the quality assurance of the project. It could be that a quality assurance department or organization is assigned to the project to oversee these processes. In that case, quality assurance might be provided to (rather than by) the project team. The project manager will have the greatest impact on the quality of the project during this process.

You’ll review the inputs to this process next and then spend some time exploring a few new tools and techniques for assuring a quality product and project.

**Inputs to Perform Quality Assurance**

The inputs to Perform Quality Assurance are what you use to measure the organizational project management processes against. The quality management processes were defined during Quality Planning. The inputs to the Perform Quality Assurance process are as follows:

- Quality management plan
- Quality metrics
- Process improvement plan
- Work performance information
- Approved change requests
- Quality control measurements
- Implemented change requests
• Implemented corrective actions
• Implemented defect repair
• Implemented preventive actions

You’ve heard about the inputs to Perform Quality Assurance before, so you’ll move right into the tools and techniques of this section.

### Exam Spotlight

The most important point to remember about Perform Quality Assurance is that quality management processes are what you use to make certain the project satisfies the quality standards laid out in the project management plan.

### Perform Quality Assurance Tools and Techniques

The Perform Quality Assurance process has four tools and techniques: quality planning tools and techniques, quality audits, process analysis, and quality control tools and techniques.

I discussed quality planning tools and techniques along with the Quality Planning process in Chapter 6. You’ll recall that the tools and techniques are cost benefit analysis, benchmarking, design of experiments, and cost of quality. You can use these tools during this process as well to measure project performance.

The quality control tools and techniques listed in this process are the same tools and techniques discussed in the Perform Quality Control process that I’ll talk about in Chapter 11, “Controlling Work Results and Closing Out the Project.” You’ll look at the remaining tools and techniques in the following sections.

### Quality Audits

**Quality audits** are independent reviews performed by trained auditors or third-party reviewers. The purpose of a quality audit is the same as the purpose of the Perform Quality Assurance process—to identify ineffective and inefficient processes used on the project. These audits might examine and uncover inefficient processes and procedures as well.

You can perform quality audits on a regular schedule or at random depending on the organizational policies. Quality audits performed correctly will provide the following benefits:

• The product of the project is fit for use and meets safety standards.
• Applicable laws and standards are adhered to.
• Corrective action is recommended and implemented where necessary.
• The quality plan for the project is adhered to.
• Quality improvements are identified.
• The implementation of approved change requests, corrective actions, preventive actions, and defect repairs are confirmed.
Quality improvements come about as a result of the quality audits. During the course of the audit, you might discover ways of improving the efficiency or effectiveness of the project, thereby increasing the value of the project and more than likely exceeding stakeholder expectations.

Quality improvements are implemented by submitting change requests or taking corrective action (two of the outputs of this process). Quality improvements interface with the Monitoring and Controlling processes because of the need to file change requests.

** NOTE **
You’ll look at change requests and change request procedures in Chapter 10, “Monitoring and Controlling Change.”

Experienced specialists generally perform quality audits. The specialist’s job is to produce an independent evaluation of the quality process. Some organizations are large enough to have their own quality assurance departments or quality assurance teams; others might have to hire contract personnel to perform this function. Internal quality assurance teams report results to the project team and management team of the organization. External quality assurance teams report results to the customer.

** Process Analysis **

*Process analysis* looks at process improvement from an organizational and technical perspective. According to the Guide to the PMBOK, process analysis follows the steps in the process improvement plan and examines the following:

- Problems experienced while conducting the project
- Constraints of the project
- Inefficient and ineffective processes identified during process operation

One of the techniques of process analysis includes performing root cause analysis. (I talked about root cause analysis in the Risk Identification process in Chapter 5.) While you’re examining problems and constraints, for example, you should look for what’s causing the problem. The result of this exercise will allow you to develop preventive actions for problems that are similar to the problem you’re examining or that have the similar root causes.

** Perform Quality Assurance Outputs **

The Perform Quality Assurance process has four outputs:

- Requested changes
- Recommended corrective actions
- Organizational process assets updates
- Project management plan updates

These aren’t new, but there is one new idea embedded in the recommended corrective actions output. During this process, the recommended corrective actions, whether they are a
result of a quality audit or process analysis, should be acted upon immediately. Let’s say you’re manufacturing parts for one of the deliverables of your project. Obviously, the moment you discover that the parts are not correct, you’d correct the process by calibrating the machine perhaps, or by using different raw materials, to make certain the parts are produced accurately.

### Quality Improvements

Although it isn’t stated as an output, one of the overarching goals of the Perform Quality Assurance process is to provide a foundation for continuous process improvements. As the name implies, continuous improvements are iterative. This process of continuous improvements sets the stage, so to speak, for improving the quality of all the project processes. This can mean project management processes, but it also means the processes involved in accomplishing the work of the project, or the organizational business processes.

I talked about continuous improvement in Chapter 4, “Creating the WBS and Communicating the Plan;” however, you need to know a little bit more about it. The advantage of continuous process improvement is that it reduces the time the project team spends on ineffective or inefficient processes. If the activities don’t help you meet the goals of the project or, worse yet, hinder your progress, it’s time to look at ways to improve them. The *Guide to the PMBOK* states that the organizational business processes are the objective for process improvement identification and review.

You’ve completed the Executing process group with the Perform Quality Assurance process. Remember that the Executing processes and Monitoring and Controlling processes serve as inputs to each other and that Executing and Monitoring and Controlling are both iterative process groups. As your project progresses and it becomes evident that you need to exercise controls to get the project back on track, you’ll come back through the Executing process group and then proceed through the Monitoring and Controlling processes again. You’ll move on to the Monitoring and Controlling process group now and find out what it’s all about.

### Monitoring and Controlling Project Work

The processes in the Monitoring and Controlling process group concentrate on monitoring and measuring project performance to identify variances from the project plan and get it back on track.

The *Monitor and Control Project Work* process is concerned with monitoring all the processes in the Initiating, Planning, Executing, and Closing process groups. Collecting data, measuring results, and reporting on performance information are some of the activities you’ll perform during this process.
According to the *Guide to the PMBOK*, the Monitor and Control Project Work process involves the following:

- Reporting and comparing actual project results against the project management plan
- Analyzing performance data and determining whether corrective or preventive action should be recommended
- Monitoring the project for risks to make certain they're identified and reported, their status is documented, and the appropriate risk response plans have been put into action
- Documenting all appropriate product information throughout the life of the project
- Gathering, recording, and documenting project information that provides project status, measurements of progress, and forecasting to update cost and schedule information that is reported to stakeholders, project team members, management, and others
- Monitoring approved change requests

**Monitor and Control Project Work Inputs**

The inputs of this process include project management plan, work performance information, and rejected change requests. I've covered the inputs project management plan and work performance information in previous chapters. Rejected change requests should be documented so that if a request to perform the change comes up in the future, or there's a question about the disposition of the request, you have a record of what the change request was about and why it was rejected.

**Tools and Techniques of Monitor and Control Project Work**

You've seen most of the tools and techniques of the Monitor and Control Project Work process:

- Project management methodology
- Project management information system
- Earned value management
- Expert judgment

You'll look more closely at the earned value technique during the discussion of the Cost Control process, which I'll cover in Chapter 10.

**Monitor and Control Project Work Outputs**

The outputs of the Monitor and Control Project Work process will also look familiar. They are as follows:

- Recommended corrective actions
- Recommended preventive actions
Forecasts
Recommended defect repair
Requested changes

The forecasts output includes information that has been gathered concerning project performance and has been used to predict future project outcomes. For example, you might use the amount of time it has taken to complete the project activities to date to help predict how much longer the project will take to complete.

You'll examine several formulas that will help you do this in the next chapter.

**Administering the Contract**

You'll now shift your focus back to the procurement arena. I talked about Request Seller Responses and Select Sellers earlier in this chapter. Now that the contract has been awarded, you need to administer it.

The *Contract Administration* process concerns monitoring the vendor's performance and ensuring that all the requirements of the contract are met. When multiple vendors are providing goods and services to the project, Contract Administration entails coordinating the interfaces among all the vendors as well as administering each of the contracts. If vendor A has a due date that will impact whether vendor B can perform their service, the management and coordination of the two vendors become important. Vendor A's contract and due dates must be monitored closely because failure to perform could impact another vendor's ability to perform, not to mention the project schedule. You can see how this situation could multiply quickly when you have six or seven or more vendors involved.

It's imperative that the project manager and project team are aware of any contract agreements that might impact the project so the team does not inadvertently take action that violates the terms of the contract.

Depending on the size of the organization, administering the contract might fall to someone in the procurement department. This doesn't mean you're off the hook as the project manager. It's still your responsibility to oversee the process and make sure the project objectives are being met, regardless of whether a vendor is performing the activities or your project team members are performing the activities. You'll be the one monitoring the performance of the vendor and informing them when and if performance is lacking. You'll also monitor the contract's financial conditions. For example, the seller should be paid in a timely manner when they've satisfactorily met the conditions of the contract, and it will be up to you to let the procurement department know it's OK to pay the vendor. If administering the contract is your
responsibility, you might have to terminate the contract when the vendor violates the terms or doesn’t meet the agreed-upon deliverables. If the procurement department has this responsibility, you’ll have to document the situation and provide this to the procurement department so that they can enforce or terminate the contract.

Administering the contract is closely linked with project management processes. You’ll monitor the progress of the contract, execute plans, track costs, measure outputs, approve changes, take corrective action, and report on status, just as you do for the project itself. According to the Guide to the PMBOK, you must integrate and coordinate the Direct and Manage Project Execution, Performance Reporting, Perform Quality Control, Integrated Change Control, and Risk Monitoring and Control processes during Contract Administration.

**Exam Spotlight**

You might find questions on the exam that involve the Request Seller Responses, Select Sellers, and Contract Administration processes. Request Seller Responses and Select Sellers are part of the Executing process group, while Contract Administration belongs to the Monitoring and Controlling group. Even though these processes belong to different process groups, they’re usually performed in the order stated in the first sentence of this exam spotlight.

**Contracting Inputs**

Contract Administration has six inputs:

- Contract
- Contract management plan
- Selected sellers
- Performance reports
- Approved change requests
- Work performance information

The contract, contract management plan, and selected sellers are outputs from the Select Sellers process. I’ll cover performance reports in more depth in Chapter 11. Performance reports for the Contract Administration process include information related to the seller (or vendor).

**Approved Change Requests**

Sometimes as you get into the work of the project, you’ll discover changes need to be made. This could entail changes to the contract as well. Approved change requests are used to process the project or contract changes and might include things such as modifications to deliverables, changes to the product or service of the project, changes in contract terms, or termination for
poor performance. Contracts can be amended at any time prior to contract completion provided the changes are agreed to by all parties and conform to the change control processes outlined in the contract.

**Exam Spotlight**

*Work performance information* is an output of the *Direct and Manage Project Execution* process. The results you gather in the Contract Administration process are actually collected as part of the *Direct and Manage Project Execution* work result output.

**Work Performance Information**

*Work performance information* concerns monitoring work results and examining the vendors' deliverables. This includes monitoring their work results against the project management plan and making certain activities are performed correctly and in sequence. You'll need to determine which deliverables are complete and which ones have not been completed to date. You'll also need to consider the quality of the deliverables and the costs that have been incurred to date.

Vendors request payment for the goods or services delivered in the form of *seller invoices*. Seller invoices should describe the work that was completed or the materials that were delivered and should include any supporting documentation necessary to describe what was delivered. The contract should state what type of supporting documentation is needed with the invoice.

**NOTE**

Remember that seller invoices are an element of the work performance information input to the Contract Administration process, not an output. Also, don't confuse seller invoices with the payment system, which is a tool and technique of this process.

**Administering Contracts Tools and Techniques**

Administering the contract requires several tools and techniques:

- Contract change control system
- Buyer-conducted performance review
- Inspections and audits
- Performance reporting
- Payment system
- Claims administration
• Records management system
• Information technology

You will look at each of these in the following sections.

**Contract Change Control System**

Much like the management plans found in the Planning processes, the *contract change control system* describes the processes needed to make contract changes. Since the contract is a legal document, changes to it require the agreement of all parties. A formal process must be established to process and authorize (or deny) changes. (Authorization levels are defined in the organizational policies.)

The purpose of the contract change control system is to establish a formal process for submitting change requests. It documents how to submit changes, establishes the approval process, and outlines authority levels. It includes a tracking system to number the change requests and record their status. The procedures for dispute resolution are spelled out in the contract change control system as well.

The change control system, along with all the management plan outputs, becomes part of the Integrated Change Control process that I'll discuss later in this chapter.

**Buyer-Conducted Performance Reviews**

Buyer-conducted performance reviews examine the seller's performance on the contract to date. These reviews can be conducted at the end of the contract or at intervals during the contract period. Buyer reviews examine the contract terms and seller performance for elements such as these:

• Meeting project scope
• Meeting project quality
• Staying within project budgets
• Meeting the project schedule

The performance reviews themselves might take the form of quality audits or inspections of documents as well as the work of the product itself. The point of the review is to determine where the seller is succeeding at meeting scope, quality, cost, and schedule issues, for example, or where they're not measuring up. If the seller is not in compliance, action must be taken to either get them back into compliance or terminate the contract. The yardstick you're using to measure their performance against is the contract SOW and the terms of the contract. When the RFP is included as part of the contract (which it usually is), you might also use it to determine contract compliance.

**Inspections and Audits**

I talked about quality audits as part of the Perform Quality Assurance process. The idea is the same here. The buyer, or some designated third party, will physically inspect the work of the seller and perform audits to determine whether there are any deficiencies in the seller's product or service.
Performance Reporting

Performance reporting is a large part of project management. This tool and technique entails providing your managers and stakeholders with information about the vendor’s progress in meeting the contract objectives. This information is also part of the Performance Reporting process that I’ll discuss in depth later in this chapter.

Payment Systems

Vendors submit seller invoices as an input to this process, and the payment system is the tool and technique used to issue payment. The organization might have a dedicated department, such as accounts payable, that handles vendor payments, or it might fall to the project manager. In either case, follow the policies and procedures the organization has established regarding vendor payments.

Claims Administration

Claims administration involves documenting, monitoring, and managing contested changes to the contract. Changes that cannot be agreed upon are called contested changes. Contested changes usually involve a disagreement about the compensation to the vendor for implementing the change. You might believe the change is not significant enough to justify additional compensation, whereas the vendor believes they’ll lose money by implementing the change free of charge. Contested changes are also known as disputes, claims, or appeals. These can be settled directly between the parties themselves, through the court system, or by a process called arbitration. Arbitration involves bringing all parties to the table with a third, disinterested party who is not a participant in the contract to try to reach an agreement. The purpose of arbitration is to reach an agreement without having to go to court.

Records Management System

It has been a while since I’ve talked about documentation, but discussing records management systems reminds me of the importance of having an organized system for contract documentation. A records management system involves not just documentation, but policies, control functions, and automated tools as part of the project management information system (which is both a part of the enterprise environmental factors and a tool and technique of several processes) used to manage project documents as well as contract documents. Records management systems typically index documents for easy filing and retrieval.

Information Technology

Information technology, in this process, refers to the automated ways you can put some of the tools and techniques, outputs, processes, and so on, to use. I don’t know about you, but I’ve reached a point where I can’t live without information technology. Having my email, contacts, project documents, to-do lists, policy documents, and so on, at my fingertips wherever I go is invaluable.

As mentioned earlier, using a project management software tool to help build the project schedule and allocate resources is much easier than developing all this by hand. Contract information and general project information and processes can be much more efficient when you use information technology to help you.
Managing Contract Outputs

The outputs to the Contract Administration process are as follows:
- Contract documentation
- Requested changes
- Recommended corrective actions
- Organizational process asset updates
- Project management plan updates

These outputs relate to the tools and techniques just talked about and, in practice, work hand in hand with them. I've talked about recommended corrective actions and project management plan updates before, and I don't have anything new to add here. The remaining outputs either are new or involve additional information you need to know.

Contract Documentation

Here's your favorite topic again. This output includes (but isn't limited to) all of the following:
- Contract
- Performance information
- Warranties
- Financial information (such as invoices and payment records)
- Inspection and audit results
- Supporting schedules
- Approved and unapproved changes

The records management system I talked about earlier is the perfect place to keep all these documents.

Requested Changes

Requested contract changes are coordinated with the Direct and Manage Project Execution and Integrated Change Control processes so that any changes impacting the project are communicated to the project team and appropriate actions are put into place to realign the objectives. This might also mean the project management plan will require changes. That requires you to jump back to the Planning process group to bring the project management plan up-to-date. Once the plan is up-to-date, the Direct and Manage Project Execution process might require changes as well to get the work of the project in line with the new plan. Remember that project management is an iterative process, and it's not unusual to revisit the Planning or Executing processes, particularly as changes are made or corrective actions are put into place.

Contract changes will not always impact the project management plan, however. For example, late delivery of key equipment probably would impact the project management plan, but changes in the vendor payment schedule probably would not. It's important that you are
kept abreast of any changes to the contract so that you can evaluate whether the project management plan needs adjusting.

**Organizational Process Asset Updates**

Organizational process assets consist of organizational policies, procedures, and so on. Three elements of this output relate to contracts:

**Correspondence**  Correspondence is information that needs to be communicated in writing to either the seller or the buyer. Examples include changes to the contract, clarification of contract terms, results of buyer audits and inspections, and notification of performance issues. You would also use correspondence to notify a vendor that you're terminating the contract because performance is below expectations and is not satisfying the requirements of the contract.

**Payment schedules and requests**  Many times, contracts are written such that payment is made based on a predefined performance schedule. For example, perhaps the first payment is made after 25 percent of the product or service is completed. Or maybe the payment schedule is based on milestone completion. In any case, as the project manager, you will verify that the vendor's work (or delivery) meets expectations before the payment is authorized. It's almost always your responsibility as the project manager to verify that the terms of the contract to date have or have not been satisfied. Depending on your organizational policies, someone from the accounting or procurement department might request written notification from you that the vendor has completed a milestone or made a delivery. Monitoring the work of the vendor is as important as monitoring the work of your team members.

The *Guide to the PMBOK* states that the payment schedules and requests element pertains to payment systems that are external to the project. For example, if the procurement department is responsible for paying the contractor, then that department manages the payment schedule (which is one of the terms of the contract). The seller submits a payment request, an inspection or review of their performance is conducted to make certain the terms of the contract were fulfilled, and the payment is made. If the project team is managing the contract payments, this output is called payments.

**Seller performance evaluation**  Seller performance evaluation is a written record of the seller's performance on the contract. It should include information about whether the seller successfully met contract dates, fulfilled the requirements of the contract and/or contract statement of work, whether the work was satisfactory, and so on. Seller performance evaluations can be used as a basis for terminating the existing contract if performance is not satisfactory. They should also indicate whether this vendor should be allowed to bid on future work. Seller performance evaluations can also be included as part of the qualified sellers lists.

Don't confuse payment systems (a tool and technique of Contract Administration) with payment schedules and requests (an output of Contract Administration). Payment systems include reviews and authorization to issue the check. The payment schedules and request output is where the check gets sent to the seller.
Exam Spotlight

I recommend remembering the inputs, tools and techniques, and outputs of the contracting processes, including Request Seller Responses, Select Sellers, and Contract Administration. Be certain you understand the purposes of these processes and don’t simply memorize their components. Here’s a brief recap:

- **Request Seller Responses**: Obtaining bids and proposals from potential vendors
- **Select Sellers**: Evaluating proposals against predetermined evaluation criteria to select vendors
- **Contract Administration**: Monitoring vendor performance to ensure contract requirements are met

Managing Project Teams

The *Manage Project Team* process is concerned with tracking and reporting on the performance of individual team members. During this process, performance appraisals are prepared and conducted, issues are identified and resolved, and feedback is given to the team members. Some team behavior is also observed during this process, but the main focus here is on individuals and their performance.

Exam Spotlight

Take note that the *Guide to the PMBOK* states that one of the outcomes or results of the Manage Project Team process is an update to the staffing management plan. However, staffing management plan updates are not listed as an output of this process.

You’ve seen all the inputs to this process before:

- Organizational process assets
- Project staff assignments
- Roles and responsibilities
- Project organization charts
- Staffing management plan
- Team performance assessment
- Work performance information
- Performance reports
Tools and Techniques for Managing Teams

Most of the tools and techniques for this process are new:
- Observation and conversation
- Project performance appraisals
- Conflict management
- Issue log

You'll take a closer look at each of these tools in the following sections.

Observation and Conversation

Observation and conversation is another one of those tools and techniques that is self-evident. To assess team member performance, you have to observe it. I hope you've also learned how important communication is to the success of the project. This includes communicating with your team members. I know project managers who are reticent to engage their teams in conversation unless it's official project business. I've even known project managers who instructed their administrative assistant to give a specific direction to another team member. It's difficult to understand a team member's attitude or viewpoint toward the project if you're communicating through someone else. Establish an open door policy with your team members and live up to it. The benefits are so great that it's worth a few minutes a day of chitchat to establish that feeling of trust and camaraderie. If your team perceives you as open, honest, and willing to listen, you'll be the first person they come to when issues arise.

Real World Scenario

What Not to Do

Tina is a newly minted project manager. She has worked on many projects as the assistant project manager, but this is the first time she has led the charge. Tina is so shy she finds it difficult to give team members any kind of direction or to assign tasks, so she has her administrative assistant do it for her. Tina tells her administrative assistant what needs to be done and who needs to do it and leaves it to the assistant to inform the appropriate team members.

As the project progresses, schedule milestone dates are missed, and Tina discovers tasks that haven't started that were scheduled to start two weeks ago. Coming in from lunch one day she saw several project team members huddled around her administrative assistant's desk. From what she overheard, they were discussing a risk event that occurred on the project.

Fortunately for Tina, one of the project managers she has worked for in the past saw what was happening. Because the administrative assistant was the one who had established relationships with the team and was in effect giving the orders, the team began treating her as the project manager instead of Tina. Tina's friend had a one-on-one coaching session with Tina about her management style and the importance of conversation and observation. Together they were able to get the project back on track.
Project Performance Appraisal

Project performance appraisals are typically annual or semiannual affairs where managers let their employees know what they think of their performance over the past year and rate them accordingly. These are usually manager-to-employee exchanges but can incorporate a 360-degree review, which takes in feedback from just about everyone the team member interacts with, including stakeholders, customers, project manager, peers, subordinates, and the delivery person if they have a significant amount of project interaction. I'm not a fan of 360-degree reviews because it makes most nonmanager types uncomfortable. “I don't want to rate my peer” is a typical response. I also find 360-degree reviews are biased. At best you'll get a response like this: “Oh, Ken is great, just great. No problems—a good guy.” Or you'll get exactly the opposite if the person you're speaking with doesn't like the team member you're reviewing. Performance appraisal should be a bit more constructive than this. Nonetheless, understand the 360-degree concept for the exam.

No matter what type of appraisal is conducted, project managers should contribute to the performance appraisals of all project team members. You should be aware of potential loyalty issues when you're working in a matrix organizational structure. The team member in this structure reports to both you (as the project manager) and a functional manager. If the project manager does not have an equal say, or at least some say about the employee's performance, it will cause the team member to be loyal to the functional manager and show little loyalty to the project or project manager. Managing these dual reporting relationships is often a critical success factor for the project, and it is the project manager’s responsibility to assure that these relationships are managed effectively.

Performance appraisal time is also a good time to explore training needs, to clarify roles and responsibilities, to set goals for the future, and so on.

Conflict Management

I talked about conflict management in the previous chapter. Here it's important to note that, as in any situation, you'll want to deal with conflict as soon as it arises. During the Manage Project Team process, most conflicts come about as a result of schedule issues, availability of resources (usually the lack of availability), or personal work habits. When project team members are having a conflict, address them first in private with the person who has the issue. Work in a direct and collaborative manner, but be prepared to escalate the issue into a more formalized procedure (potentially even disciplinary action) if needed.

If conflicts exist between two of the team members, encourage resolution between them without intervention on your part. The best conflict resolution will come about when they can work out the issues between them. When that isn't possible, you'll have to step in and help resolve the matter.

Remember that solid ground rules and established policies and procedures will help mitigate conflict before it arises.

Issue Log

The issue log is a place to document the issues that keep the project team from meeting project goals. These can range from differences of opinion to newly surfaced responsibilities that need
to be assigned to a project team member. Each issue should be recorded in the log along with the person responsible for resolving it. You should also note the date the resolution is needed.

Managing Project Team Outputs

The outputs of the Manage Project Team process are the result of the conversations, performance appraisals, and conflict resolution I've talked about previously. This process has five outputs:

- Requested changes
- Recommended corrective actions
- Recommended preventive actions
- Organizational process assets updates
- Project management plan updates

Remember that the elements of these outputs pertain to human resources. For example, requested changes might come about as a result of a change in staffing, corrective actions might come about because of disciplinary actions or training needs, and preventive actions might be needed to reduce the impact of potential human resource issues. Any of these actions might cause changes to the staffing management plan, which means you should update the project management plan.

The organizational process asset updates output has two components: input to organizational performance appraisals and lessons learned documentation. Input to organizational performance appraisals comes from team members with significant interactions with the project and each other.

Lessons learned encompasses everything you've learned about the human resources aspect during this project, including documentation that can be used as templates on future projects (such as org charts, position descriptions, and the staffing management plan), techniques used to resolve conflict, the types of conflict that came up during the project, ground rules, when and how virtual teams were used on the project and the procedures associated with them, the staffing management plan, special skills needed during the project that weren't known about during the Planning processes, and the issue log.

Managing Stakeholders

In my experience, managing stakeholders is much more difficult than managing project team members. Stakeholders are often managers or directors in the organization who might be higher in the food chain than the project manager and aren't afraid to let you know it. Having said that, you can manage stakeholders, and you do this using communication.

NOTE: If you need a refresher on the definition and role of stakeholders, please see Chapter 1, “What Is a Project?”
The Manage Stakeholders process is about satisfying the needs of the stakeholders by managing communications with them, resolving issues, and improving project performance by implementing requested changes.

Stakeholders need lots of communication in every form you can provide. If you are actively engaged with your stakeholders and interacting with them, providing project status, and resolving issues, your chances of a successful project are much greater than if you don’t do these things.

The inputs of this process are the communications management plan and organizational process assets. You’ve seen both of these before. The tools and techniques include communication methods and issue logs. Keep in mind that face-to-face communications are the most effective with stakeholders. The issue log in this process is more like an action item log where you record the actions needed to resolve stakeholder concerns and project issues they raise. As with the issue log in the Manage Project Team process, you’ll assign a responsible party and a due date for resolution.

The outputs of the Manage Stakeholder process are resolved issues, approved change requests, approved corrective actions, organizational process assets updates, and project management plan updates. Resolved issues are logged in the issue log.

Establishing Performance Measurements

As mentioned, the Monitoring and Controlling process group concentrates on monitoring and measuring project performance to identify variances from the project plan. Performance Reporting is the process where the collection of baseline data occurs and is documented and reported. Performance Reporting is part of the Communications Management Knowledge Area, as is the Manage Stakeholders process. Thus, it involves collecting information regarding project progress and project accomplishments and reporting it to the stakeholders. This information might also be reported to project team members, the management team, and other interested parties. Reporting might include information concerning project quality, costs, scope, project schedules, procurement, and risk.

Performance Reporting Inputs

You’ve examined all the inputs to the Performance Reporting process. They are as follows:

- Work performance information
- Performance measurements
- Forecasted completion
- Quality control measurements
- Project management plan
Approved change requests
Deliverables

Note that the project management plan contains the project management baseline data (typically cost, schedule, and scope factors), which you’ll use to monitor and compare results. Deviations from this data are reported to management. Performance measures are taken primarily during the Cost Control, Schedule Control, and Perform Quality Control processes, which you’ll look at in the next chapter.

Performance Reporting Tools and Techniques

The tools and techniques of this process are as follows:
- Information presentation tools
- Performance information gathering and compilation
- Status review meetings
- Time reporting systems
- Cost reporting systems

Information Presentation Tools

Information presentation tools include automated tools such as spreadsheet and presentation software that help you create presentable reports and information regarding the progress and status of the project for stakeholder review.

Performance Information Gathering and Compilation

If you and your team members have been diligently documenting your project’s performance, you need to gather all that information and keep it in one place. Performance information gathering and compilation can occur manually, as in everyone turns in hard copy reports to the project manager or other designated person, or you can gather information automatically from project management software systems, databases, or other systems. Performance data, as well as data used in progress reports, status reports, and forecasts, should be captured for future reference. The important part is that you should keep the documentation in one place and make it easily accessible to anyone who needs it.

Status Review Meetings

Status review meetings are important functions during the course of the project. (I introduced status review meetings with the Information Distribution Process in the previous chapter.) The purpose of the status meeting is to provide updated information regarding the progress of the project. These are not show-and-tell meetings. If you have a prototype to demo, set up a different time to do that. Status meetings are meant to exchange information and provide project updates. They are a way to formally exchange project information. I’ve worked on projects where it’s not unusual to have three or four status meetings conducted for different audiences. They can occur between the project team and project manager, between the project manager
and stakeholders, between the project manager and users or customers, between the project manager and the management team, and so on.

Notice that the project manager is always included in status review meetings. Take care that you don’t overburden yourself with meetings that aren’t necessary or meetings that could be combined with other meetings. Having any more than three or four status meetings per month is unwieldy.

Regular, timely status meetings prevent surprises down the road because you are keeping stakeholders and customers informed of what’s happening. Team status meetings alert the project manager to potential risk events and provide the opportunity to discover and manage problems before they get to the uncontrollable stage.

The project manager is usually the expeditor of the status meeting. As such, it’s your job to use status meetings wisely. Don’t waste your team’s time or the stakeholders’ time either. Notify attendees in writing of the meeting time and place. Publish an agenda prior to the meeting, and stick to the agenda during the meeting. Every so often, summarize what has been discussed during the meeting. Don’t let side discussions lead you down rabbit trails, and keep irrelevant conversations to a minimum. It’s also good to publish status meeting notes at the conclusion of the meeting, especially if any action items resulted from the meeting. This will give you a document trail and serves as a reminder to the meeting participants of what actions need to be resolved and who is responsible for the action item.

It’s important that project team members are honest with the project manager and that the project manager is in turn honest about what they report. A few years ago, a department in my agency took on a project of gargantuan proportions and unfortunately didn’t employ good project management techniques. One of the biggest problems with this project was that the project manager did not listen to the highly skilled project team members. The team members warned of problems and setbacks, but the project manager didn’t want to hear about it. The project manager took their reports to be of the “Chicken Little” ilk and refused to believe the sky was falling. Unfortunately, the sky was falling! Because the project manager didn’t believe the reports, the project manager refused to report the true status of the project to the stakeholders and oversight committees. Millions of dollars were wasted on a project that was doomed for failure while the project manager continued to report that the project was on time and activities were completed when in fact they were not.

There are hundreds of project stories like this, and I’ll bet you’ve got one or two from your experiences as well. Don’t let your project become the next bad example. Above all, be honest in your reporting. No one likes bad news, but bad news delivered too late along with millions of dollars wasted is a guaranteed career showstopper.

**Time and Cost Reporting Systems**

Time and cost reporting systems are used to, obviously, record time and cost information about the project. Most specifically, these systems will report the time and cost that has been expended on the project to date.
Performance Reporting Outputs

The Performance Reporting process has several outputs:

- Performance reports
- Forecasts
- Requested changes
- Organizational process assets updates (lessons learned)

Performance reports are the primary output of this process. It’s here that performance information is documented and reported to the stakeholders as outlined in the communication management plan. These reports might take many forms, including S curves (cost baselines are recorded this way), bar charts, tables, and histograms. Earned value information is often reported during this process as well. You’ll examine this topic in the next chapter during the discussion of the Cost Control process.

In the next chapter, you’ll explore the main change control processes and the measurement tools you’ll use to provide the variance measurements that are gathered and reported to the stakeholder during the Performance Reporting process.

Real World Scenario

Project Case Study: New Kitchen Heaven Retail Store

Your regularly scheduled status meeting is coming up. Let’s see how it’s progressing.

"Thank you all for coming," you begin. You note those stakeholders who are present and pass out the agendas. "First, we have a contract update. Jake, would you give us the update, please?"

"Gomez Construction has submitted a seller payment request for the work completed through November 30. Shelly in our contract management office manages the payment system and handles all payment requests. She’ll get a check cut and out to Gomez by the end of this month. They are doing an outstanding job as always. As you know, I’ve also hired an independent inspector, aside from the city and county types, so that we make sure we’re up to code before the city types get there. I don’t want to get caught in that trap and end up delaying the project because we can’t get the city inspector back out to reinspect quickly enough."

"Thank you, Jake. Any problems with those inspections so far?"

Jake clears his throat. "It turned out to be a good move because the contractor did find some things that we were able to correct before bringing out the official inspectors."

"Ricardo, do you have a contract update for us today?"

"Yes. The contract management office used a fixed-price contract on the hardware and IT supplies order. That contract is just now making its way through the sign-off processes. My group will manage the quality control and testing once all this equipment arrives."
“Jill, can you give us the update on the store?” you ask.

“I’ve ordered all the retail products, have ordered the cookware line, and have lined up the chef demos. The costs for the new gourmet supplier we’re using are higher than our original vendor. This impacts ongoing operations, but the hit to the project budget is minimal. I should also mention that a change request was submitted.”

You point everyone’s attention to the issues list. “In the last meeting I reported that Gomez had an important crew member out on a family emergency. Gomez was able to replace the team member with no impact to the schedule. The next issue was the T1 connection—I reported that Ricardo was not receiving phone calls back. Good news—that issue has been cleared, the date has been set, and we can close this issue. Are there any new issues to be added this week?”

One of the stakeholders from the marketing department speaks up, “I need someone from the project team to work with me on the website announcement. I haven’t heard anything, and I don’t want to cut this so close that we put up something subpar on the website. The 50th anniversary deserves a little splash.”

“OK,” you reply. “I’ll set up a meeting with you to get more information, and then we’ll determine who is the best fit. I’ve noted we need to assign someone to this activity in the issue log. On another note, I have one more issue to report. Unfortunately, we lost a valuable team member last week. I don’t want to go into all the details here, but this employee violated our Internet acceptable use policy. This person was placed on disciplinary action on this very issue once before. This will impact the project schedule because his activities were on the critical path. I’ve already interviewed two internal candidates who’ve expressed interest in working on the project. I believe either one would work out nicely. However, there is some ramp-up time needed.”

“What’s the forecast?” Dirk asks. “Are we on track for meeting the grand opening date given all these issues?”

“I’ll have performance figures for you at the next status meeting, and I have some ideas on how we can make up this time other ways so that we still meet the date.”

You thank everyone for coming and remind them of the next meeting time.

**Project Case Study Checklist**

- Contract Administration
  - Contract documentation
  - Seller invoices
  - Payment systems
  - Records management system
Perform Quality Assurance
- Quality audits
- Making certain the project will meet and satisfy the quality standards of the project

Manage Project Team
- Observation and conversation
- Recommended corrective actions
- Conflict management
- Issue log

Manage Stakeholders
- Communications methods
- Issue log
- Resolved issues

Performance Reporting
- Performance reports (status meetings)
- Forecasts

Understanding How This Applies to Your Next Project

This chapter is jammed with information you need to know for the exam as well as on the job. But depending on the size of your organization, many of the processes I discussed in the Executing process group might actually be handled by another department in your organization. I've worked in small companies (fewer than 100 people) and very large companies and have always had either a person or a department that was responsible for the vendor selection, contract negotiation, and contract administration. As the project manager, I have significant input to these processes, but the person or department responsible for procurement has the ultimate control. For example, we use only RFPs (and occasionally RFIs) to solicit vendors. We typically use a weighted scoring model in combination with a screening and rating system to choose a vendor. For small projects, we have a list of prequalified vendors from which to choose.

Someone who is skilled at writing contracts can best handle the contracts, which ideally should be reviewed by the legal team. The legal team should also review changes proposed by
the vendor before signing on the dotted line. Clear, concise, and specific contracts, in my experience, are a critical success factor for any project. I’ve too often seen contract issues bring a project to a sudden halt. Another classic contract faux pas allows the vendor to think the work is complete while the buyer believes the vendor is weeks or months away from meeting the requirements. These types of disputes can almost always be traced back to an unclear, imprecise contract. It’s important to be specific in your statement of work. Make sure that the project requirements are clear and broken down far enough to be measurable and that deliverables are defined with criteria that allow you to inspect for contract compliance prior to final acceptance.

Let me stress again that you cannot successfully manage a project team without communicating with them on a regular basis. The last thing you want is for a stakeholder to follow you into the elevator to inform you about a major problem with the project that you weren’t aware of. That will happen if you haven’t established a relationship with your team. If they don’t believe you’re trustworthy or they don’t know you well enough to know whether you’ll stand by them, you’ll be one of the last people to find out what’s happening. I know managers and project managers who subscribe to the “don’t get too close to your team” theory. I subscribe to the “all things in moderation” theory. You do want to establish relationships and prove your loyalty to the team, but you also have to know where to draw the line. When it comes time to hold a team member accountable, it can be difficult to do if you have become very close on a personal basis. But I advocate erring on the side of developing a relationship with the team. My teams have to trust me to the point that they know they can come to me—at any time, with all types of news, good or bad—and I’ll help them resolve the problem.

Managing your stakeholders is as important as managing the team. Stakeholders need proper doses of communication at the right time and in the right format. Remember the old adage that most people need to hear the same information six times before it registers with them. Stakeholders, understandably, are notorious for hearing what they want to hear. Here’s an example: If I asked you to picture an elephant, you could likely picture an elephant in your mind. It might be live or stuffed and grey, brown, or pink, but you’d clearly understand the concept. Elephant is a word that’s pretty hard to misinterpret. But what if I asked you to picture a three-bedroom house? There’s lots of room for interpretation there. When I said three-bedroom house, I meant ranch style with the master on one end of the house and the other two bedrooms at the other end of the house. What did you picture? Make certain you’re using language your stakeholders understand, and repeat it often until you’re certain they get it.

**Summary**

This chapter finished up the Executing process group and looked at the first process in the Monitoring and Controlling process group. I discussed Request Seller Responses, Select Sellers, Contract Administration, and Perform Quality Assurance from the Executing process group. I also covered several processes in the Monitoring and Controlling process group including Monitor and Control Project Work, Contract Administration, Manage Project Team, Manage Stakeholders, and Performance Reporting. Request Seller Responses involves obtaining bids and
responses from vendors. The tools and techniques of this process include bidder conferences, advertising, and develop qualified sellers list.

Select Sellers involves receiving bids or proposals. In this process, the selection committee will use evaluation criteria to prioritize the bids and proposals, and the outcome is that a seller (or sellers) is selected and contracts awarded.

During the Perform Quality Assurance process, quality audits are performed to ensure that the project will meet and satisfy the project’s quality standards set out in the quality plan.

The Monitor and Control Project Work project concerns monitoring all the project process groups, collecting data, measuring results, reporting on performance information, and taking corrective action to keep the project in scope and on schedule.

Contract Administration is the process where you’ll monitor the vendor’s performance and ensure that all the requirements of the contract are met. If more than one vendor is working on the project, Contract Administration entails coordinating the interfaces among all the vendors as well as administering each of the contracts.

Contracts have cycles of their own, much like projects. Phases of the contracting life cycle include requirement, requisition, solicitation, and award. Changes to the contract are managed with change requests.

Changes that cannot be agreed upon are contested changes. These take the form of disputes, claims, or appeals. They might be settled among the parties directly, through a court of law, or through arbitration.

Request Seller Responses and Select Sellers belong to the Executing process group, and the Contract Administration belongs to the Monitoring and Controlling process group. In practice, you’ll generally perform Request Seller Responses, Select Sellers, and Contract Administration in that order.

Manage Project Teams involves tracking and reporting on project team member performance. Performance appraisals are performed during this process and feedback is provided to the team members.

The Manage Stakeholders process concerns making certain communication needs of the stakeholders are met, managing any issues stakeholders might raise, and implementing change requests.

The last process covered in this chapter, Performance Reporting, is one of the ways stakeholders (and others) are kept informed of project progress. Performance Reporting includes tools and techniques such as information presentation tools and status reports to report performance, requested changes, forecast future project performance, and update organizational process assets.

### Exam Essentials

Be able to describe the difference between the Request Seller Responses process and the Select Sellers process. Request Seller Responses obtains bids and proposals from vendors. Select Sellers is the receipt of bids and proposals and the selection of a vendor.
Be able to name the tools and techniques of the Select Sellers process. The tools and techniques of the Select Sellers process are weighting systems, independent estimates, screening systems, contract negotiation, seller rating systems, expert judgment, and proposal evaluation techniques.

Be able to describe the purpose of the Perform Quality Assurance process. The Perform Quality Assurance process is concerned with making certain the project will meet and satisfy the quality standards of the project.

Be able to describe the purpose of the Monitor and Control Project Work process. The Monitor and Control Project Work process monitors the project process groups including Initiating, Planning, Executing, and Closing. This process reports and compares project results with the project management plan; monitors approved change requests; and analyzes, documents, and records project information.

Be able to name the contracting life cycle stages. Contracting life cycles include requirement, requisition, solicitation, and award.

Be able to name the tools and techniques of the Manage Project Team process. The tools and techniques of Manage Project Team are observation and conversation, project performance appraisal, conflict management, and issue log.

Be able to define the purpose of the Performance Reporting process. The Performance Reporting process collects and reports information regarding project progress and project accomplishments. The technique used often to report on project performance is earned value analysis.

Key Terms

I’ve discussed in detail the processes you’ll use while measuring and evaluating project performance. You need to understand each of these processes to effectively evaluate progress, recognize variances from the plan, and make adjustments to keep the project on track. Know them by the names used in the *PMBOK* so you’ll recognize them on the exam.
You learned a lot of new key words in this chapter as well. PMI has worked hard to develop and define terms that apply across industries. Here is a list of some of the terms you came across in this chapter:

<table>
<thead>
<tr>
<th>360-degree review</th>
<th>evaluation criteria</th>
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<tr>
<td>advertising</td>
<td>fait accompli</td>
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<td>appeals</td>
<td>independent estimates</td>
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<td>arbitration</td>
<td>payment system</td>
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<td>bidder conferences</td>
<td>process analysis</td>
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<td>claims</td>
<td>quality audits</td>
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<td>claims administration</td>
<td>screening systems</td>
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<td>contested changes</td>
<td>seller invoices</td>
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<td>contract change control system</td>
<td>seller rating systems</td>
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<td>contract negotiation</td>
<td>should cost estimates</td>
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<td>develop qualified sellers lists</td>
<td>status review meetings</td>
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<tr>
<td>disputes</td>
<td>work performance information</td>
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Review Questions

1. You are a project manager for Dakota Software Consulting Services. You’re working with a major retailer that offers its products through mail-order catalogs. The company is interested in knowing customer characteristics, the amounts of first-time orders, and similar information. As a potential bidder for this project, you worked on the RFP response and submitted the proposal. When the selection committee received the RFP responses from all the vendors bidding on this project, it used a weighted system to make a selection. Which process did this occur in?
   A. Select Sellers
   B. Request Seller Responses
   C. Plan Contracting and Purchases
   D. Contract Administration

2. You have been asked to submit a proposal for a project that has been put out for bid. First you attend the bidder conference to ask questions of the buyers and to hear the questions some of the other bidders will ask. Which of the following statements is true?
   A. Bidder conferences are a tool and technique of the Select Sellers process.
   B. Bidder conferences are an output of the Select Sellers process.
   C. Bidder conferences are an output of the Request Seller Responses process.
   D. Bidder conferences are a tool and technique of the Request Seller Responses process.

3. You have been asked to submit a proposal for a project that has been put out for bid. Prior to submitting the proposal, your company must register so that its firm is on the qualified seller list. Which of the following statements is true?
   A. The qualified seller list provides information about the sellers and is a tool and technique of the Request Seller Responses process.
   B. The qualified seller list provides information about the project and the company that wrote the RFP and is an output of the Select Sellers process.
   C. The qualified seller list provides information about the project and the company that wrote the RFP and is a tool and technique of the Select Sellers process.
   D. The qualified seller list provides information about the sellers and is an output to the Request Seller Responses.

4. Which of the following tools and techniques of the Select Sellers process is used to check proposed pricing?
   A. Screening systems
   B. Seller rating systems
   C. Independent estimates
   D. Proposal evaluation technique
5. During the opening rounds of contract negotiation, the other party uses a fait accompli tactic. Which of the following statements is true about fait accompli tactics?
   A. One party agrees to accept the offer of the other party but secretly knows they will bring the issue back up at a later time.
   B. One party claims the issue under discussion was documented and accepted as part of Scope Verification.
   C. One party claims the issue under discussion has already been decided and can’t be changed.
   D. One party claims to accept the offer of the other party, provided a contract change request is submitted describing the offer in detail.

6. The tools and techniques of the Request Seller Responses process include all of the following except which one?
   A. Bidder conferences
   B. Information technology
   C. Advertising
   D. Develop qualified sellers list

7. All of the following are tools and techniques of the Contract Administration process except for which one?
   A. Contract change control system, buyer-conducted performance review, and inspections and audits
   B. Performance reporting, payment system, and claims administration
   C. Records management system and information technology
   D. Contract performance information gathering and contract reporting systems

8. You are a project manager for an engineering company. Your company won the bid to add ramp-metering lights to several on-ramps along a stretch of highway at the south end of the city. You subcontracted a portion of the project to another company. The subcontractor’s work involves digging the holes and setting the lamp poles in concrete. The subcontractor’s performance is not meeting the contract requirements. Which of the following is not a valid option?
   A. You document the poor performance in written form and send the correspondence to the subcontractor.
   B. You terminate the contract for poor performance and submit a change request through Contract Administration.
   C. You submit a change request through Contract Administration demanding that the subcontractor comply with the terms of the contract.
   D. You agree to meet with the subcontractor to see whether a satisfactory solution can be reached.
9. You are a project manager for an engineering company. Your company won the bid to add ramp-metering lights to several on-ramps along a stretch of highway at the south end of the city. You subcontracted a portion of the project to another company. The subcontractor’s work involves digging the holes and setting the lamp poles in concrete. You discover, through an independent review, that the process the subcontractor uses to report its progress is inefficient. Which of the following is true?
   A. You are in the Perform Quality Assurance process and have performed a quality audit.
   B. You are in the Perform Quality Assurance process and have performed a process analysis.
   C. You are in the Contract Administration process and have completed a contract audit to ensure that the subcontractor’s performance meets the contract requirements.
   D. You are in the Performance Reporting process and have completed a performance review of the contractor’s work.

10. The purpose of a quality audit includes all of the following except which one?
    A. To determine which project processes are inefficient or ineffective
    B. To examine the work of the project and formally accept the work results
    C. To improve processes and reduce the cost of quality
    D. To improve processes and increase the percentage of product or service acceptance

11. You are a contract project manager for a wholesale flower distribution company. Your project involves developing a website for the company that allows retailers to place their flower orders online. You will also provide a separate link for individual purchases that are ordered, packaged, and mailed to the consumer directly from the grower’s site. This project involves coordinating the parent company, growers, and distributors. You’ve discovered a problem with one of the technical processes needed to perform this project. You decide to perform root cause analysis to determine the cause of this problem and recommended preventive actions. Which of the following is true?
    A. You are using the process analysis technique.
    B. You are using the quality audit technique.
    C. You are using the root cause identification technique.
    D. You are using a Quality Control tool and technique.

12. The tools and techniques of the Perform Quality Assurance process include all of the following except which one?
    A. Quality audits
    B. Process analysis
    C. Continuous process improvements
    D. Quality Control tools and techniques
13. When working in a matrix environment, all of the following are true regarding the Manage Project Team process except for which one?
   A. Communication methods and issue logs are used to create performance appraisals, provide feedback, and track issues.
   B. Managing project teams in a matrix environment is often a critical success factor for the project.
   C. It’s the project manager’s responsibility to make certain this dual reporting relationship is managed effectively.
   D. Loyalty issues might arise when managing projects in a matrix environment.

14. You are preparing project performance appraisals and have decided you’d like each team member to get feedback regarding their performance from several sources, including peers, superiors, and subordinates. Which of the following is true?
   A. This is called 360-degree feedback and is part of the input to the organizational project performance appraisals, which is part of the organizational process assets updates input of the Manage Project Team process.
   B. This is called 360-degree feedback and is considered part of the team performance assessment input of the Manage Project Team process.
   C. This is called 360-degree feedback and is considered part of the work performance information input of the Manage Project Team process.
   D. This is called 360-degree feedback and is part of the project performance appraisals tool and technique of the Manage Project Team process.

15. You are performing actions such as reporting and comparing actual project results against the project management plan, analyzing performance data and determining whether corrective or preventive action should be recommended, documenting all appropriate product information throughout the life of the project, gathering and recording project information, and monitoring approved change requests. Which process are you performing?
   A. Performance Reporting
   B. Manage Stakeholders
   C. Monitor and Control Project Work
   D. Perform Quality Assurance

16. You are collecting information regarding project progress and project accomplishments and reporting it to the stakeholders. You will manage these communication needs and resolve issues using the communication management plan as your guideline. Which of the following is true?
   A. You are using the Performance Reporting process, which involves reporting project progress and accomplishments to the stakeholders. You are using the performance information
gathering and compilation tool, which is used in conjunction with the communications management plan, to coordinate and report information.

B. You are using both the Performance Reporting and Manage Stakeholders processes, which are both part of the Project Communications Management Knowledge Area.

C. You are using the communications method (an input) and issue logs (a tool and technique) of the Manage Stakeholder process.

D. You are creating performance reports and recommended corrective actions, which are both outputs of the Performance Reporting process.

17. You are working on a project and discover that one of the business users responsible for testing the product never completed this activity. She has written an email requesting that one of your team members drop everything to assist her with a problem that could have been avoided if she would have performed the test. This employee reports to a stakeholder, not to the project team. All project team members and stakeholders are co-located. Since your team needs her to also participate in an upcoming test, you decide to do which of the following?

A. You decide to record the issue in the issue log and bring it up at the next status meeting. Everyone can benefit from understanding the importance of stakeholders fulfilling their roles and responsibilities on the project.

B. You decide to record the issue in the issue log and then phone the stakeholder to explain what happened. You know speaking with the stakeholder directly is the most effective means for resolving issues.

C. You decide to have a face-to-face meeting with the stakeholder because this is the most effective means for resolving issues with them.

D. You decide to email the stakeholder and explain what happened in a professional manner because this is the most effective means for resolving issues with them.

18. You are working on a project and discover that one of the business users responsible for testing the product never completed this activity. She has written an email requesting that one of your team members drop everything to assist her with a problem that could have been avoided if she would have performed the test. This employee reports to a stakeholder, not to the project team. You estimate that the project might not be completed on time as a result of this missed activity. All of the following are true except for which one?

A. You should recommend a corrective action to bring the expected future project performance back into line with the project management plan because of this employee’s failure to perform this activity.

B. You should recommend a preventive action to reduce the possibility of future project performance veering off track because of this employee’s failure to perform this activity.

C. You’ve created a forecast, an output of the Monitor and Control Project Work process, using past performance to predict what the project’s future condition might look like.

D. You might have to request a change to the project schedule as a result of this missed activity.
19. All of the following are tools and techniques of the Performance Reporting process except which one?
   A. Performance measurements
   B. Cost reporting systems
   C. Information presentation tools
   D. Time reporting systems

20. Your project is progressing as planned. The project team has come up with a demo that the sales team will use when making presentations to prospective clients. You will do which of the following at your next stakeholder project status meeting?
   A. Preview the demo for stakeholders, and obtain their approval and sign-off.
   B. Report on the progress of the demo, and note that it's a completed task.
   C. Review the technical documentation of the demo, and obtain approval and sign-off.
   D. Report that the demo has been noted as a completed task in the information retrieval system.