Unit 10: Procurement Management
(*PMBOK® Guide*, Chapter 12)

This knowledge area addresses the processes for purchasing or acquiring products and services from outside the project team or organization. **See course slide #10-1 for an overview of the procurement process.**

Major Processes

12.1 Plan Procurement Management *(documenting what to purchase, specifying the approach, and identifying potential sellers)*

12.2 Conduct Procurements *(obtaining seller responses, selecting sellers, and awarding contracts)*

12.3 Control Procurements *(managing procurement relationships, monitoring contract performance, and making changes as needed)*

12.4 Close Procurements *(completing project procurements)*

The *PMBOK® Guide* defines procurement management as the processes required to acquire goods and services from outside the performing organization. PMI states that this knowledge area addresses the topic from the perspectives of **both** the buyer and the seller.

In the United States, contracts are legal, mutually binding documents and are subject to remedy in the courts. Unless stated otherwise, you should assume that the buyer is internal to the project team (or the team's organization) and the seller is external to the team.

12.1 Plan Procurement Management (*PMBOK® Guide*, p. 358)

Procurement planning involves deciding which products or services should be procured from outside the organization, specifying the approach, and identifying potential sellers. The questions to answer are whether, how, what, when, and how much to procure. The process should consider the following:

- Potential sellers (is a buy decision feasible?)
- The desired schedule (best met through make or buy?)
- The risks associated with make vs. buy
- The appropriate type of contract

Plan Procurement Management		
Inputs	**Tools**	**Outputs**
1. Project management plan 2. Requirements documentation 3. Risk register 4. Activity resource requirements 5. Project schedule 6. Activity cost estimates 7. Stakeholder register 8. Enterprise environmental factors 9. Organizational process assets	1. Make-or-buy analysis 2. Expert judgment 3. Market research 4. Meetings	1. Procurement management plan 2. Procurement statement of work 3. Procurement documents 4. Source selection criteria 5. Make-or-buy decisions 6. Change requests 7. Project documents updates

Nine Key Inputs for Plan Procurement Management (*PMBOK® Guide*, p. 360):

1. Project Management Plan: Contains descriptions of the project need, justification, requirements, and boundaries. The scope baseline is of special interest at this point:

- **Scope statement:** Includes information such as requirements, constraints, assumptions, list of deliverables, acceptance criteria, required delivery dates, and available resources.
- **WBS:** The work breakdown structure describes and organizes the work. Is a major factor in deciding what to outsource.
- **WBS dictionary:** Provides the details for each work package and control account.

2. Requirements Documentation: Requirements documentation may include:

- Project requirements
- Some requirements may have contractual or legal implications; such as environmental, intellectual property rights, health and safety, and the need for licenses, permits, or certifications to be allowed to perform the work.

3. Risk Register: Some contractual agreements are chosen as a risk mitigation strategy and, in any case, the risk register identifies specific risk concerns.

4. Activity Resource Requirements: Identifies facilities, equipment, and people needed to handle the work. If these resources are not available in-house, the work may be outsourced using a contract.

5. Project Schedule: Contains required timelines that may also become the rationale for entering into a contract (cannot meet the deadline with in-house sources) **or** may be needed to evaluate the ability of a prospective contractor to meet the schedule.

6. Activity Cost Estimates: If in-house costs are high, this may be a reason to outsource or, conversely, the information may be needed to evaluate proposals from prospective contractors.

7. Stakeholder Register: Identifies key participants and their level of interest in the project.

8. Enterprise Environmental Factors: Factors that may affect procurement planning includes:

- Conditions of the marketplace:
    - Is the product or service available in the marketplace?
    - Are the services of a reputable contractor available at the right time?
- Typical terms and conditions
- Unique local requirements

9. Organizational Process Assets: Organizational Process Assets may include:

- Procurement policies and constraints:
    - Is there a buying department? If not, members of the project team may have to conduct procurement activities themselves.
    - Are there any requirements that certain contracts be set aside for small and disadvantaged business?
- Procedures for selecting contract type
- Established supplier system and/or pre-qualified sellers

PMI recognizes three broad categories of contracts. The fixed price and cost reimbursement categories have been of greatest interest on the certification exam.

Fixed price (also called lump sum): Appropriate when the product is well-defined and the risks are generally felt to be low. *Risk is borne by the seller* because they are legally obligated to deliver the specified product even if they incur a financial loss in doing so.

Cost reimbursement: Appropriate when the product is initially difficult to define (e.g., product does not exist and must be developed) and when risk is high. Buyers agree to reimburse the seller's actual costs plus guaranteeing a profit. *Risk is borne by the buyer*. The costs include both direct costs and indirect costs.

Time and material: A hybrid arrangement with elements of both fixed price and cost reimbursement. On the fixed price side, the seller is paid a preset amount per unit of service ($50 per cubic yard of gravel delivered, $200 per hour for professional services, and so on). On the cost reimbursement side, the dollar value is based on how much material or time is actually used.

You must be familiar with seven specific types of contracts that fall under the umbrella of the first two categories above (fixed price and cost reimbursement). **See course slides #10-2 through #10-13 for examples and diagrams.**

Cost Plus Percentage of Cost (CPPC): Provides for reimbursement of allowable costs plus an agreed percentage of the costs (as the seller's profit). This type of contract is now illegal in the U.S. federal sector and does not provide the type of incentives that most buyers look for in a contractual arrangement.

Cost Plus Fixed Fee (CPFF): Provides for reimbursement of allowable costs plus a fixed fee paid proportionately as the work progresses. Risk mostly on the buyer; used for research and development in which risk is quite high at the beginning of the work. CPFF contracts usually have a ceiling price that establishes an upper limit on the buyer's financial obligation. There is no financial reward provided to the seller for keeping costs low.

Cost Plus Incentive Fee (CPIF): Provides for reimbursement of allowable costs plus a calculated fee based on performance. The seller has an incentive to control costs through a negotiated sharing arrangement. Minimum and maximum levels of profit are established at the outset. Again, there is often a ceiling price established by the contract.

Cost Plus Award Fee (CPAF): As always, legitimate and allowable costs are reimbursed and an additional fee is paid. In this case, qualitative performance criteria are defined in the contract and the fee is paid based on the buyer's subjective judgment of the seller's performance. The buyer's decision is not usually subject to appeal. Buyers like this arrangement because it gives them enormous leverage with their sellers. Award fee pools may be combined with virtually any type of contract.

Fixed Price with Economic Price Adjustment (FP-EPA): If the performance period spans multiple years, concerns may exist about inflation and significant price changes for key materials or supplies. This type of contract allows adjustments to compensate for these uncertainties. An EPA clause ties pricing to an agreed financial index (e.g. consumer price index) and final prices are adjusted according to whether the index went up, down, or remained stable.

Fixed Price Incentive Fee (FPIF): Provides the seller with a fixed price plus a calculated fee based on performance. This contract type is similar in concept to CPIF in that there is a sharing arrangement that provides an incentive to control costs. However, in a CPIF arrangement, the seller is guaranteed a minimum profit. In an FPIF arrangement, it is possible for the seller to lose money. Therefore, risk is shifting onto the seller in this type of contract. FPIF contracts also have a ceiling price and a point of total assumption (PTA). The PTA is the level of cost at which the sharing arrangement ceases and any further costs come 100 percent from the seller's profit. The course slides show an example of how to calculate the PTA.

Firm Fixed Price (Lump sum): Contracted goods and services are furnished at an agreed fixed price. The seller bears all the risk but is potentially rewarded with a maximum profit potential. Best suited for situations in which risk is low and the product can be well defined.

You should also be familiar with the concept of **contract incentives**. Incentives provide a "carrot" aimed at bringing the objectives of the contractor in line with those of the buyer. Incentives can be used in conjunction with any contract type; real world experience has shown that incentives are extremely effective.

Four Key Tools for Plan Procurement Management (*PMBOK® Guide*, p. 365):

1. Make-or-Buy Analysis: Determining the cost effectiveness of producing an item in-house (make) versus procuring it from an outside organization (buy). The analysis should consider both the *direct costs as well as the indirect costs* (cost of monitoring the purchasing process). Whenever a buy decision is made, a follow-on decision involves whether to purchase or lease.

The *PMBOK® Guide* also states that the analysis should consider not just the project needs and costs but the overall organization's needs and costs, as well. For example, it may not be cost effective to purchase certain equipment or build a new facility for an individual project. However, the equipment or facility may also support other work in the rest of the organization.

2. Expert Judgment: Subject matter experts are needed to develop appropriate evaluation criteria and judge proposals that are received. Proposals often have financial, management, and technical considerations that are beyond the expertise of one individual. The expertise of lawyers is often required for non-standard procurements.

3. Market Research: Examines vendor capabilities to perform needed work. Also assesses risks associated with vendors, technologies, materials, and equipment.

4. Meetings: Various interchange meetings with potential bidders, including bidder conferences, may improve the information needed to formulate an effective procurement strategy.

Seven Key Outputs for Plan Procurement Management (*PMBOK® Guide*, p. 366):

1. Procurement Management Plan: Delineates the types of contracts to be used, whether independent cost estimates will be needed, how multiple providers will be managed, and the roles and responsibilities of contracting professionals.

The plan may include all or portions of the following:

- Types of contracts
- Whether independent estimates will be used
- Constraints, assumptions, and supplier lead times
- Risk management

- Formats for the statement of work and WBS
- Coordinating procurement with resource needs, schedules, costs, and lead times
- Identifying pre-qualified sellers
- Metrics for performance reporting

2. Procurement Statement of Work (SOW): A narrative description of goods or services to be supplied under contract. The SOW also defines collateral services such as performance reporting, project reviews conducted by the buyer, post-project support requirements, and so on. The SOW should contain enough detail so that prospective contractors can evaluate their own ability to meet the stated needs. Also called a **statement of requirements** or a **statement of objectives** in some areas. The use of an **SOR** or an **SOO** often refers to a procurement item presented as a problem to be solved (rather than a product to be purchased).

3. Procurement Documents: Used to request proposals from prospective sellers. Key points include:

- When the procurement is price driven, the terms *bid* and *quotation* are used.
- When the procurement is influenced by technical considerations and other non-financial concerns, the term *proposal* is used.
- A procurement can be initiated as a **unilateral contract,** which usually means a purchase order for routine items at standard (catalog) prices. Purchase orders become enforceable at the time the supplier ships the requested items.
- Alternatively, a procurement can be initiated as a **bilateral contract** using one of four approaches:
  a. **Request for Information (RFI):** This approach is not actually an official request for a bid. Instead, it asks for “expressions of interest,” solicits feedback regarding capacity and capability to perform the work, and so on. The RFI responses may be useful in developing the qualified sellers list.
  b. **Invitation for Bid (Sealed Bid):** Used for routine, well-defined items. Buyer wants bids to get the best price. Does not usually involve negotiations and no discussion is allowed.
  c. **Request for Quotation:** Used for relatively low dollar purchases of commodity items. Discussion between buyer and seller is permitted.

This approach may be considered a "best value" search, which compares price to other factors such as schedule, technical merit, and past performance of potential contractors.

d. **Request for Proposal:** Used for complex, nonstandard items of high dollar value. Discussion and negotiation are usually involved.

4. Source Selection Criteria: Used to rate or score proposals. The criteria may be objective (the PM must have a PMP®) or subjective (the PM must have appropriate experience). Sample criteria include:

- Understanding of need
- Warranty
- Life cycle cost
- Technical capability
- Management approach
- Financial and production capacity
- Past performance of seller
- Production capability
- Intellectual property and proprietary rights

5. Make-or-Buy Decisions: Written documentation of these decisions with supporting rationale.

6. Change Requests: As always, if change requests occur during this process, they should be handled using integrated change control.

7. Project Documents Updates: Documents that may be updated include:

- Requirements documentation
- Requirements traceability matrix
- Risk register

12.2 Conduct Procurements (*PMBOK® Guide*, p. 371)

This process obtains information such as bids and proposals from prospective sellers, selects the winning response, and awards a legally binding contract. For the exam, one notable activity is the use of **qualified seller lists.** Procurement (contracting) specialists develop such lists from a variety of sources and use them to determine who might have the ability to perform the needed work. These lists can also speed up the process. Another notable fact is that **bidder conferences**, if used, are performed as part of this step. Independent estimates may be important if the procurement is noncompetitive and you need to ensure that prices are fair and reasonable.

For large, complex procurements, this process may be performed numerous times for multiple contracts. Also, a common practice is to screen the initial responses and create a list of competitors "in the **competitive range**" (known to many people as the "short list"). More detailed evaluations and negotiations are then conducted with sellers on the short list. Another practice is the use of the "**BAFO**" technique (best and final offer). The technique is used when procurement personnel want lower prices in the proposals. Other key points:

- Weighted evaluation scores are sometimes used to establish a preferred negotiating sequence for proposals on the short list.
- Proposals are often organized into different sections or volumes that are evaluated separately by different experts. For example, common sections evaluated separately are technical approach, price, schedule, management approach, and past performance.
- In some instances, organizations prefer (as a risk mitigation strategy or as a cost competition factor) to have multiple suppliers for certain products.

Conduct Procurements		
Inputs	**Tools**	**Outputs**
1. Procurement management plan 2. Procurement documents 3. Source selection criteria 4. Seller proposals 5. Project documents 6. Make-or-buy decisions 7. Procurement statement of work 8. Organizational process assets	1. Bidder conferences 2. Proposal evaluation techniques 3. Independent estimates 4. Expert judgment 5. Advertising 6. Analytical techniques 7. Procurement negotiations	1. Selected sellers 2. Agreements 3. Resource calendars 4. Change requests 5. Project management plan updates 6. Project documents updates

Eight Key Inputs for Conduct Procurements (*PMBOK® Guide*, p. 373):

1. Procurement Management Plan: The procurement management plan was an output of the previous process (Section 12.1).

2. Procurement Documents: Described in Section 12.1.3.3, an appropriate document is chosen to request seller responses (IFB, RFQ, RFP).

3. Source Selection Criteria: The criteria were developed as an output of the previous process (Section 12.1.3.4) and are now used to actually evaluate and compare the various bids or proposals.

4. Seller Proposals: Prepared and submitted in response to the buyer's procurement document package (PDP). A proposal constitutes a legal offer and should be constructed carefully by the seller. The PDP is sent by the buyer to prospective sellers (based on the qualified seller list) and contains:

- A procurement document (IFB, RFQ, RFP)
- The evaluation criteria
- A cover letter with instructions: due date for the proposal, table of contents or required format (if any), number of copies, and so on.

5. Project Documents: Project documents that may be considered at this point include the risk register and any risk-related contract decisions.

6. Make-or-Buy Decisions: Described in Section 12.1.3.5, factors influencing make-or-buy decisions include:

- Core capabilities of the organization (technical ability to perform the work in-house)
- Value added by potential vendors
- Comparative risks

7. Procurement Statement of Work (SOW): Provides prospective suppliers with clearly stated goals and requirements that must be met. The SOW may include the following information:

- Specifications, quantity and quality desired
- Performance data and period of performance
- Work location and other requirements

8. Organizational Process Assets: Organizational Process Assets that may be relevant include:

- Listings of prospective and previously qualified sellers
- Past experience with specific sellers
- Prior agreements

Seven Key Tools for Conduct Procurements (*PMBOK® Guide*, p. 375):

1. Bidder Conferences: Used to ensure all prospective sellers share a clear, common understanding of technical and contract requirements. Most organizations are careful to ensure that all potential sellers are given equal treatment and information.

2. Proposal Evaluation Techniques: Most organizations that conduct major procurements have established source selection procedures. These procedures establish the approach for evaluating, comparing, and selecting winning proposals. On some procurements, a **screening system** may be used which imposes specific minimum criteria that must be met. A proposal may be rejected without further review for failure to meet the criteria.

3. Independent Estimates: A procurement organization sometimes prepares its own estimates as a cross-check or verification that the bids are fair and reasonable. Also called “should cost” estimates, this tool is especially important for non-competitive procurements (e.g. sole source).

4. Expert Judgment: A multi-disciplinary team of experts (financial, technical, management) is usually required to effectively evaluate proposals.

5. Advertising: The use of general circulation sources such as newspapers and professional journals and newsletters to expand the potential pool of sellers. In some government jurisdictions, public advertising of new opportunities is mandatory.

6. Analytical Techniques: Techniques used to evaluate past performance information to ensure that prospective vendors will be capable of meeting all stated requirements.

7. Procurement Negotiations: Clarification and mutual agreement on the structure and requirements of the contract prior to signing. Negotiations may address the following issues:

- Authority to make changes
- Technical and management approaches
- Proprietary rights
- Financing, payments, and price
- Schedule

The project manager may not be the lead negotiator but is usually present to offer assistance.

Objectives of negotiation:

1. Obtain a fair and reasonable price
2. Develop and preserve a good working relationship with the other party

Common negotiation tactics:

Deadline: "We have to catch a flight at 5:00 p.m. and **must** complete the deal before we leave."

Good cop/bad cop: One person is helpful and understanding while the other is difficult and demanding.

Fait accompli: Pretending that some condition is essentially a "done deal" or not negotiable at all.

Missing man: "I'm sorry, only my boss can agree to that request and he or she isn't here. Let's agree to do ____________ instead. I can agree to that."

Limited authority: "I can't agree to reduce the price by $100,000. I'm only authorized to offer $50,000."

Delay: "Let's handle that issue at the next meeting." May be a ploy leading to a deadline tactic. "Oops, we're running out of time, so let's sign this deal and work out any issues later."

Personal Insults: Designed to intimidate you and/or undermine your confidence.

Fair and reasonable: A personal appeal that may be posed with a great deal of charm and "folksiness." "You and I know what's going on here. Let's be reasonable and work this out."

Six Key Outputs for Conduct Procurements (*PMBOK® Guide*, p. 377):

1. Selected Sellers: Sellers who have been chosen as being in the competitive range and who have submitted a proposal that has been accepted. The proposal becomes the basis for the contract (subject to any last-minute negotiating of terms and conditions).

2. Agreements: Agreements establish a legal relationship subject to remedy in the courts. Agreements may be variously referred to as a contract, an understanding, a subcontract, or a purchase order. A contract is a mutually binding agreement that obligates the seller to provide the specified product and obligates the buyer to pay for it.

You must know the **elements of a legally enforceable contract:**

- The agreement must be voluntary. There must be both an offer and an acceptance.

- The agents must be legally authorized to enter into a legal commitment. (The authorization can be written or verbal). In business contracts, a *delegation of procurement authority* is often used to identify precisely who is authorized to enter into a contract.

- There must be sufficient cause, which is also known as "consideration." An exchange of value must take place.

- The contract must be for a legal purpose.

While there may be differences, the major components in most contracts include the following**:**

- Statement of work or deliverables
- Period of performance and schedule baseline
- Required performance reporting
- Place of performance and delivery
- Pricing and payment terms
- Warranty and product support
- Penalties and incentives
- Subcontractor approvals
- Handling of change requests
- Dispute resolution procedures
- Termination procedures and alternative dispute resolution procedures

3. Resource Calendars: Specific quantity and availability of contracted resources.

4. Change Requests: If change requests are generated during the procurement, they must be handled using integrated change control procedures.

5. Project Management Plan Updates: Elements of the plan that may be changed include:

- Cost, schedule, and scope baselines
- Communications and procurement management plans

6. Project Documents Updates: Documents that may be updated include:

- Requirements documentation
- Requirements traceability documentation
- Risk register
- Stakeholder register

12.3 Control Procurements (*PMBOK® Guide*, p. 379)

The buyer **and** the seller both perform control (also called contract administration) to ensure that the other party meets its contractual obligations. The process involves monitoring performance, managing interfaces if there are multiple providers, making changes and corrections, and processing interim payments (often called progress payments which are based on the seller's progress in completing the work). In some cases, control procurements may involve managing the early termination of a contract (for cause, for convenience, or for default). Several key project management processes are used to help accomplish these aims:

- Direct and manage project work *(PMBOK® Guide, Section 4.3)*
- Control quality *(PMBOK® Guide, Section 8.3)*
- Perform integrated change control *(PMBOK® Guide, Section 4.5)*
- Control risks *(PMBOK® Guide, Section 11.6)*

Control Procurements		
Inputs	**Tools**	**Outputs**
1. Project management plan 2. Procurement documents 3. Agreements 4. Approved change requests 5. Work performance reports 6. Work performance data	1. Contract change control system 2. Procurement performance reviews 3. Inspections and audits 4. Performance reporting 5. Payment systems 6. Claims administration 7. Records management system	1. Work performance information 2. Change requests 3. Project management plan updates 4. Project documents updates 5. OPA updates

Six Key Inputs for Control Procurements (*PMBOK® Guide*, p. 381):

1. Project Management Plan: Contains the procurement management plan which describes how each procurement process is to be handled.

2. Procurement Documents: The contract and the SOW are two of the most important documents that would guide contract administration.

3. Agreements: Described in Section 12.2.3.2.

4. Approved Change Requests: May include modifications to contract terms and conditions with the most important being any effect on the triple constraint (scope, schedule, cost). Verbally discussed but undocumented change requests should **not** be processed or implemented.

5. Work Performance Reports: Seller performance documentation in the areas of technical achievement and performance reports (cost, schedule, resource variances and forecasts).

6. Work Performance Data: Addresses whether quality standards are being met, what costs have been incurred, the completion status of deliverables, and what interim payments have been requested and/or paid.

Seven Key Tools for Control Procurements (*PMBOK® Guide*, p. 383):

1. Contract Change Control System: As always, establishes the procedures by which changes can be approved. This system includes paperwork, tracking, approval levels, and dispute resolution procedures (important for Tool #6 below).

2. Procurement Performance Reviews: A structured review of the seller's progress (cost, schedule, scope, quality). The purpose of these reviews is to document successes and failures as well as demonstrate whether the seller is able to complete the work as planned.

3. Inspections and Audits: These quality management techniques are used to check for compliance with contract requirements. Inspections and audits are usually required by the buyer and supported by information from the seller.

4. Performance Reporting: Documents the contractor's relative effectiveness in achieving contract objectives.

5. Payment Systems: The payment system includes appropriate reviews and approvals so that interim and final payments can be made as appropriate. Payment systems are sometimes handled by the project (larger programs) but are frequently handled by the accounts payable department in the overall organization.

6. Claims Administration: Contested or constructive changes are those where the buyer and seller cannot agree on the terms (cost, schedule) for a change. In some cases, a dispute arises over whether a work item is a change in scope or is a legitimate part of the original scope.

If the parties cannot resolve a claim themselves, the matter is then handled through whatever dispute resolution procedures were established in the contract. Dispute resolution can occur during project performance or after a project has been closed.

7. Records Management System: Used to manage contract documents and records. Usually involves an index of contract documents with methods for retrieval, archiving, and automation.

Five Key Outputs for Control Procurements (*PMBOK® Guide*, p. 384):

1. Work Performance Information (WPI): WPI provides a means to track compliance with contracts, check the performance of vendors, and improve forecasting, risk management, and decision making.

2. Change Requests: Processed using integrated change control. Disputed changes are usually given special attention and documented separately.

3. Project Management Plan Updates: Elements of the plan that may be updated include:

- Procurement management plan (to reflect approved change requests, especially those affecting costs or schedules)
- Schedule and cost baselines (to reflect any significant variances from the baseline or revisions to the baseline because of approved changes)

4. Project Documents Updates: Various aspects of procurement documentation may be updated, such as:

- The contract and schedule
- All changes and change requests
- Technical documentation including status of deliverables
- Invoices and payment records
- Contract-related inspections

5. Organizational Process Assets Updates:

- Correspondence: Key correspondence concerning audits, inspections, change requests, warnings for unsatisfactory performance, and key decisions. Includes the results of audits and inspections that may identify developing problem areas.
- Payment schedules and requests: Tracking whether required payments are handled correctly.
- Seller performance evaluation: Documentation prepared by the buyer that assesses the seller's ability to complete the work as planned.

12.4 Close Procurements (*PMBOK® Guide*, p. 386)

Contract closure supports the close project or phase process (integration management, Section 4.6) by completing each procurement. It involves **product verification** (was the work completed correctly?) and **administrative closeout** (updating and archiving of records). Early termination is a special case of contract closure and can result from a mutual decision, from default by one of the parties, or for convenience of the buyer. The rights of the parties should be defined in a terminations clause in the contract.

Close Procurements		
Inputs	**Tools**	**Outputs**
1. Project management plan 2. Procurement documents	1. Procurement audits 2. Procurement negotiations 3. Records management system	1. Closed procurements 2. OPA updates

Two Key Inputs for Close Procurements (*PMBOK® Guide*, p. 388):

1. Project Management Plan: Described in *PMBOK® Guide*, Section 4.2.3.1, the procurement management plan is the component that provides guidelines for closing each procurement.

2. Procurement Documents: All documentation is collected, indexed, and filed according to established procedures. The information can be used for lessons learned, estimating future contracts, and evaluating contractors for future procurements.

Three Key Tools for Close Procurements (*PMBOK® Guide*, p. 388):

1. Procurement Audits: Structured reviews of the procurement process to identify successes and failures. The information is used to improve the current project, future projects, and the overall organization. Procurement audits are also known as lessons learned in some areas.

2. Procurement Negotiations: Final settlement of outstanding issues, claims, and disputes using negotiation if possible. Alternate dispute resolution is used only when necessary.

3. Records Management System: Described in Section 12.3.2.7, this system provides a consistent, structured method for archiving all contract records.

Two Key Outputs for Close Procurements (*PMBOK® Guide*, p. 389):

1. Closed Procurements: The buyer provides formal, written notice that the contract has been completed.

2. Organizational Process Assets Updates: Should include the following:

- **Procurement file:** An official, complete set of indexed contract documentation.
- **Deliverable acceptance:** Formal, written notice that deliverables have been accepted or rejected. Instructions on how to handle non-conforming deliverables should be provided.
- **Lessons learned documentation:** Post-project evaluation is important because it provides historical records that help in contractor selection on future contracts (a past performance database to support the select sellers process).

Other Topics:

Competition: Promoting competition is generally considered a wise practice. However, there are conditions in which non-competitive procurement makes sense. They are:

- When a particular contractor truly has a unique capability.
- When mechanisms exist to ensure the proposed price is reasonable. For instance, you have the expertise to do an in-house, independent estimate.
- When extreme schedule pressure exists. Competitive source selections consume considerable time in solicitation, evaluating proposals, selecting a contractor, and negotiating the final terms and conditions.

Also note the following difference in terminology:

Single source: A choice to contract directly with your preferred supplier (but other sources exist).

Sole source: There is only one supplier available (could be a patent limitation or only one supplier has the technical ability).

Organizing for Contract Management: Contracting can be centralized or decentralized. You must know the characteristics of each approach.

Centralized:

- More economical
- Supports specialization of the contracting function
- Less responsive to the specific needs of individual projects
- Works well in functionally organized companies

Decentralized:

- Project manager has more control
- Contracting more responsive to individual project needs
- Higher costs; duplication of effort
- Works best in a projectized organization

Privity of contract: A legal term that recognizes that whereas a formal contractual relationship exists between the buyer and the prime contractor, no such relationship exists between the buyer and the subcontractors. It is legally improper for the buyer to bypass the contractor and deal directly with a subcontractor.

Foreign currency exchange: On international contracts, procedures for handling fluctuations in exchange rates must be identified in the contract.

Backcharge: The cost of *corrective action taken by a buyer* and charged back to the contractor under the terms of the contract.

Breach of contract: Failure, without legal excuse, to perform any express or implied promise in a contract. It is also defined as an unequivocal, absolute refusal to perform under the contract.

Force majeure: Sometimes called the Acts of Nature or Acts of God clause. A contractor may be excused or granted relief from work not completed if the cause of non-performance relates to these so-called Acts of Nature or God (e.g. a hurricane, tornado, lightning strike, and so on).

Liquidated damages: An express provision in a contract that identifies a specific monetary sum for which one of the parties will be liable if there is a breach of contract or failure to perform. For example, if the security system being installed in a school system is not operable by a given date, the contractor may be required to pay $5,000 per day until the system is operating.

Standard contract clauses: Commonly used contract clauses that are already developed (boilerplate) and have two advantages:

1. Less costly to develop
2. Less chance of a legal dispute (legally debugged through experience)

Specification: A document that specifies, in a complete, precise, verifiable manner, the requirements, design, behavior, or other characteristics of a system, component, product, result, or service and, often, the procedures for determining whether these provisions have been satisfied. Examples include: requirement specification, design specification, product specification, and test specification.

Undefined Work: Arises when time is of the essence. Need to start work but the price and related conditions have not been negotiated yet. Often uses a letter contract with the details to be negotiated later. Can also occur because of changes to an existing contract; work proceeds on the basis of an undefinitized change order.

Warranty: Establishes a required level of quality and a source of remedy for failure to meet those standards.

Warranty of Merchantability: A promise that goods are reasonably fit for the purpose for which they were sold.

Waiver: A party can intentionally or voluntarily relinquish rights they had under a contract. For example, if a project manager accepts incomplete or defective work and fails to demand correction, the contractor may be excused from meeting any strict standards of performance.

Summary of Close Project Processes:

Numerous students have cited concern about questions on closing the project and closing a contract. The following review summarizes and compares these concepts.

Integration Management, Process 4.6, Close Project or Phase (*PMBOK® Guide*, p. 100):

- Involves performing the project closure portion of the project management plan
- In a multi-phase project, may apply only to the activities for the given phase
- Establishes procedures to:
    1. Verify and document project deliverables
    2. Formalize acceptance of deliverables by the customer
    3. Investigate and document the reasons for any instance of early project termination (before completion of the work)

Procurement Management, Process 12.4, Close Procurements (*PMBOK® Guide*, p. 386):

- Supports the close project process (integration management)
- Verifies that work was completed and was acceptable
- Updates records to reflect final results and archives information for future use
- May address individual phases of a project
- Unresolved claims may be subject to litigation after contract closure
- Early termination is a special case resulting from mutual agreement or default of either party. The buyer may have the right to terminate all or portions of a project for cause (default) or convenience. However the seller may be compensated for work completed or accepted (but not started). The contract terms and conditions should address how these issues are to be handled.

4.6 Close Project or Phase		
Inputs	**Tools**	**Outputs**
1. Project management plan 2. Accepted deliverables 3. Organizational process assets	1. Expert judgment 2. Analytical techniques 3. Meetings	1. Final product, service, or result transition 2. OPA updates a. Project file b. Project or phase closure documents c. Historical information

12.4 Close Procurements		
Inputs	**Tools**	**Outputs**
1. Project management plan 2. Procurement documents	1. Procurement audits 2. Procurement negotiations 3. Records management system	1. Closed procurements 2. OPA updates a. Procurement file b. Deliverable acceptance c. Lessons learned

Self-Study
Drill Practice: Procurement Management

Question	Answer
1. What are the four procurement management processes? *Note: All page numbers in this drill practice refer to the study guide unless otherwise indicated.*	1. Plan procurement management Conduct procurements Control procurements Close procurements (p. 10-1)
2. What are the three broad categories of contracts recognized by PMI?	2. Fixed price or lump sum Cost reimbursable Time and material (p. 10-4)
3. What are the four tools for plan procurement management?	3. Make-or-Buy Analysis Expert Judgment Market Research Meetings (p. 10-6)
4. Name three common types of cost reimbursable contracts. Which poses the highest cost risk for the buyer?	4. Cost Plus Fixed Fee (CPFF) Cost Plus Incentive Fee (CPIF) Cost Plus Award Fee (CPAF) CPFF poses a greater risk for the buyer. (pp. 10-4/5 and course slide 10-12)
5. What kind of costs should a make-or-buy analysis consider?	5. direct **and** indirect (p. 10-6)
6. Name three common types of fixed price contracts. Which poses the greatest cost risk for the seller?	6. Fixed Price-Economic Price Adjustment Fixed price incentive fee (FPIF) Firm fixed price (FFP) FFP poses the greatest cost risk to the seller (p. 10-5 and course slide 10-12).

7. What is a contract?	7. A mutually binding agreement which obligates the seller to provide the specified product and obligates the buyer to pay for it. A contract is a legal relationship subject to remedy in the courts (pp. 10-12/13).
8. What are the elements of a legally enforceable contract?	8. • The agreement must be voluntary, i.e., there must be both an offer and an acceptance. • The agents must be legally authorized to enter into the contract. • There must be sufficient cause, i.e., “consideration” (an exchange of value). • The contract must be for a legal purpose (p. 10-13).
9. Which process may result in a make-or-buy analysis?	9. Plan procurement management (p. 10-6).
10. Mark the following statements true or false: a. CPFF contracts are illegal in many areas. b. A fixed price contract shifts risk to the buyer. c. FFP contracts offer the greatest profit potential to sellers. d. Cost reimbursable contracts offer the greatest profit potential to sellers. e. FFP contracts use a share ratio negotiated by the buyer and seller.	10. a. False b. False c. True d. False e. False (pp. 10-4/5 and course slides 10-4 to 10-11)
11. Identify 8 negotiating tactics.	11. 1. Deadline 2. Good cop/bad cop 3. Fait accompli 4. Missing man 5. Limited authority 6. Delay 7. Personal insults 8. Fair and reasonable (p. 10-12)
12. What is true of a successful negotiation?	12. A successful negotiation preserves working relationships by satisfying the needs of both parties, i.e., win-win (p. 10-12).

13. What is a warranty?	13. Establishes a required level of quality and a remedy for the buyer for failure to meet those standards (p. 10-20).
14. Under what conditions does sole source procurement make sense (contractor selection without competition)?	14. • When schedule pressure exists. • When a particular contractor has unique capabilities and qualifications. • When mechanisms exist to ensure fair and reasonable prices (p. 10-19).
15. How should exchange rate fluctuations be handled on multi-national projects?	15. By setting forth an agreed method in the contract; the actual methods vary in practice (p. 10-20).
16. What is the purpose of contract negotiation?	16. Reach and document an acceptable agreement (fair and reasonable) between the buyer and seller before the contract is signed (pp. 10-11/12).
17. Compare centralized and decentralized contracting.	17. **Centralized contracting** is generally less expensive, supports a higher degree of specialization for the contracting function, and works best in functionally-organized companies. Disadvantages: Contracting may not be as responsive to specific needs of a particular project and may become a bottleneck. **Decentralized contracting** gives the PM more control and makes contracting more responsive to individual project needs. Works best in a projectized environment. Disadvantages: More costly; duplication of contracting effort (p. 10-19).
18. What is a specification?	18. A document that specifies, in a complete, precise, verifiable manner, the requirements, design, behavior, or other characteristics of a system, component, product, result, or service and, often, the procedures for determining whether these provisions have been satisfied. Examples include: requirement specification, design specification, product specification, and test specification (p. 10-20).

19. What is the purpose of a contract incentive?	19. Bring the objectives of the contractor in line with those of the buyer. Incentives can be used in conjunction with virtually any type of contract! (p. 10-5)
20. Under which contract type would it be most important for the contractor to control contract changes?	20. Fixed price (“scope creep” in fixed price arrangements could eat up profit or even result in a monetary loss) (pp. 10-4/5).
21. During plan procurement management, what are the ways to originate a contract?	21. **Unilateral** is essentially a purchase order for standardized, routine items. Vendors often accept the orders automatically without even signing them in advance. **Bilateral** can be initiated one of three ways: • IFB: Appropriate for routine items where the buyer’s objective is simply to get the best possible price. • RFQ: Used for purchase of routine, commodity items of relatively low monetary value. • RFP: used for complex, non-standard items of relatively high monetary value. • **Note: An RFI only solicits expressions of interest and does not originate a contract.** (pp. 10-7/8)
22. What are source selection criteria?	22. As an output from plan procurement management, these criteria are used to rate or score proposals. The criteria may be objective or subjective and can include: • Understanding of need • Life cycle cost • Technical capability • Management approach • Financial and production capability • Past performance • Intellectual property and warranty (p. 10-8)

23. What are the seven tools for conduct procurements (when evaluating prospective contractors)?	23. 1. Bidder conferences 2. Proposal evaluation techniques 3. Independent estimates 4. Expert judgment 5. Advertising 6. Analytical techniques 7. Procurement negotiations (pp. 10-11/12)
24. What are the five outputs of control procurements?	24. 1. Work performance information 2. Change requests 3. Project management plan updates 4. Project documents updates 5. Organizational Process Assets updates (pp. 10-16/17)
25. What is the purpose of control procurements?	25. Ensuring that buyer and seller both meet their contractual obligations. On larger projects with multiple providers, this function often involves managing the interfaces among these providers (p. 10-14).
26. Why are standard contract clauses encouraged?	26. Because they are less costly to develop and they are legally sufficient for many contractual situations (already tested and proven) (p. 10-20).
27. What is undefined work?	27. Arises when time is of the essence. Need to start work but the price and related conditions have not been negotiated yet. Often uses a letter contract with the details to be negotiated later. Can also occur because of changes to an existing contract; work proceeds on the basis of an undefinitized change order (p. 10-20).
28. What are the tools used during close procurements?	28. Procurement audits Procurement negotiations Records management system (p. 10-18)

29. Why is a post-contract evaluation important?	29. To establish a historical database to assist in future contractor selections; is considered part of final lessons learned documentation (p. 10-18).
30. Mark the following statements about change control true or false: a. Contract changes are not inherently bad and need not be resisted. b. Fixed price contracts minimize the need for change control. c. A CCB is normally responsible for reviewing change requests. d. Changing the scope of a contract is easier with a cost reimbursable contract.	30. a. True b. False c. True d. True (pp. 2-28 to 2-30) (pp. 10-4 to 10-5) (Course slides 10-4 to 10-11)
31. Define the term Statement of Work (SOW).	31. A narrative description of products/goods and services to be supplied under contract (p. 10-7).
32. What is another term that is very similar in meaning to SOW?	32. SOR (Statement of Requirements) or SOO (Statement of Objectives). In some industries, the term SOR refers to procurement items presented as a problem to be solved (p. 10-7).
33. What is an RFP and what is it used for?	33. RFP = Request for Proposal It is used to solicit bids from prospective contractors (pp. 10-7/8).
34. Define liquidated damages.	34. A contract provision that specifies monetary liability if a party is in breach or fails to perform. Often associated with failure to perform on time (p. 10-20).
35. What is a bidder conference?	35. A tool of conduct procurements, bidder conferences are used to ensure all bidders share a clear and common understanding of technical and contractual requirements. Equal access to information is emphasized (p. 10-11).

36. Match the appropriate procurement document to the circumstances identified below:	36.
a. You are purchasing 150 laptop computers for the engineering school at Imperial College, London, UK. You are attempting to compare various factors such as delivery schedule, price, and technical specs.	a. RFQ (best value search for existing commodity items in the marketplace)
b. You are redesigning university classrooms to incorporate new technologies so that MBA students can work interactively in teams and with the professors.	b. RFP (customized development of a solution and for somewhat high monetary amounts)
c. You are making an annual purchase of pencils, paper, and notebooks for employees at your company.	c. IFB (also called a sealed bid, you are looking for the best price for routine items readily available in the marketplace) (pp. 10-7/8)