

Project Procurement Management

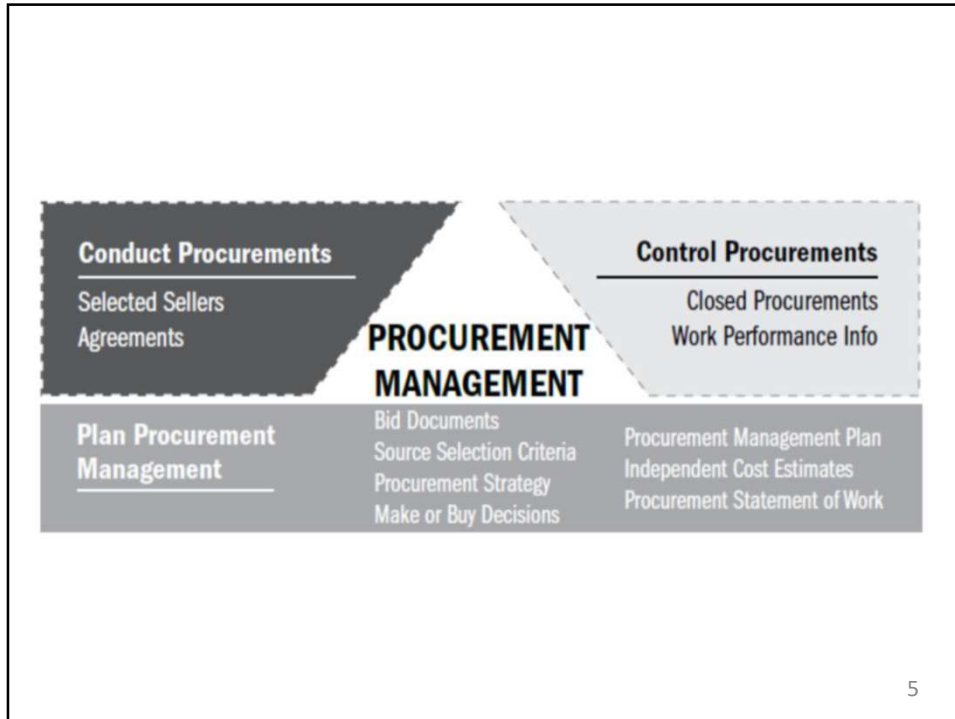
- Project Procurement Management includes the *processes necessary to purchase or acquire products, services, or results needed from outside the project team.*
- Project Procurement Management includes the *management and control processes required to develop and administer agreements such as contracts, purchase orders, memoranda of agreements (MOAs), or internal service level agreements (SLAs).*
- The personnel authorized to procure the goods and/or services required for the project may be members of the project team, management, or part of the organization's purchasing department if applicable.

3

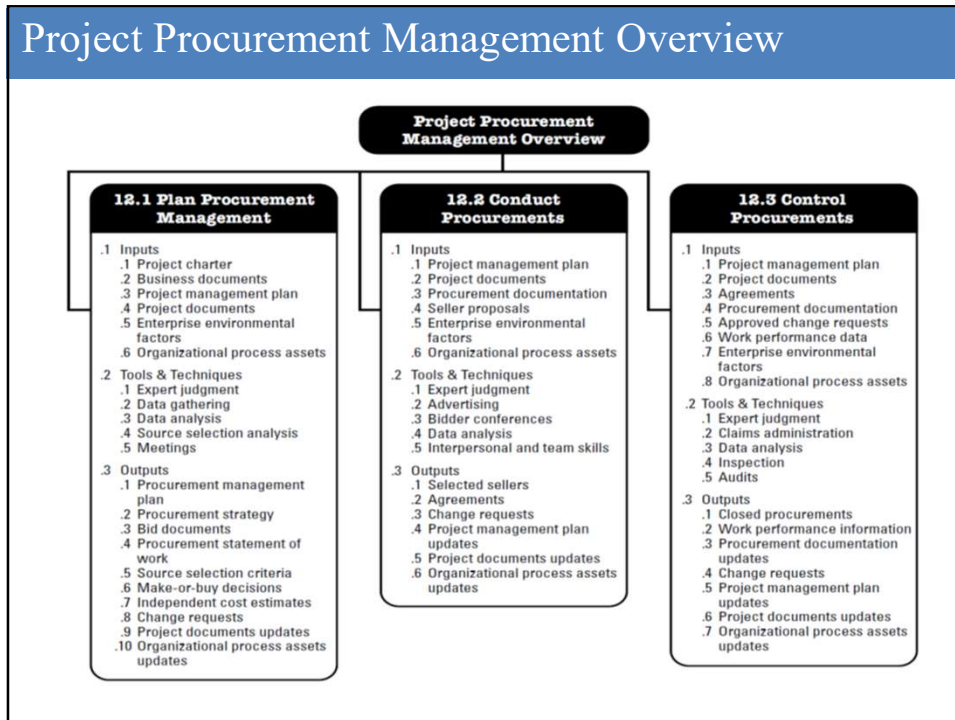
Project Procurement Management Processes

- Project Procurement Management processes include:
- **Plan Procurement Management** - The process of documenting project procurement decisions, specifying the approach, and identifying potential sellers.
- **Conduct Procurements** - The process of obtaining seller responses, selecting a seller, and awarding a contract.
- **Control Procurements** - The process of managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate, and closing out contracts.

4



5



6

Project Procurement Management

- More than most other project management processes, there can be significant legal obligations and penalties tied to the procurement process.
- The project manager does not have to be a trained expert in procurement management laws and regulations but should be familiar enough with the procurement process to make intelligent decisions regarding contracts and contractual relationships.
- The project manager is typically not authorized to sign legal agreements binding the organization; this is reserved for those who have the authority to do so.
- *The Project Procurement Management processes involve agreements that describe the relationship between two parties—a buyer and a seller.*
- *Agreements can be as simple as the purchase of a defined quantity of labor hours at a specified labor rate, or they can be as complex as multiyear international construction contracts.*
- *The contracting approach and the contract itself should reflect the simplicity or complexity of the deliverables or required effort and should be written in a manner that complies with local, national, and international laws regarding contracts.*

7

Tailoring considerations

Because each project is unique, the project manager may need to tailor the way that Project Procurement Management processes are applied. Considerations for tailoring include but are not limited to:

- **Complexity of procurement:** Is there one main procurement or are there multiple procurements at different times with different sellers that add to the complexity of the procurements?
- **Physical location:** Are the buyers and sellers in the same location, or reasonably close, or in different time zones, countries, or continents?
- **Governance and regulatory environment :** Are local laws and regulations regarding procurement activities integrated with the organization's procurement policies? How does this affect contract auditing requirements?
- **Availability of contractors :** Are there available contractors who are capable of performing the work?

8

8

Enterprise Environmental Factors

The enterprise environmental factors that can influence the Plan Procurement Management process include but are not limited to:

- Marketplace conditions;
- Products, services, and results that are available in the marketplace;
- Sellers, including their past performance or reputation;
- Typical terms and conditions for products, services, and results or for the specific industry;
- Unique local requirements, such as regulatory requirements for local labor or sellers;
- Legal advice regarding procurements;
- Contract management systems, including procedures for contract change control;
- Established multi-tier supplier system of prequalified sellers based on prior experience; and
- Financial accounting and contract payments system.

9

9

Organizational Process Assets

The various types of contractual agreements used by the organization also influence decisions for the Plan Procurement Management process :

Preapproved seller lists : Lists of sellers that have been properly vetted can streamline the steps needed to advertise the opportunity and shorten the timeline for the seller selection process.

Formal procurement policies, procedures, and guidelines : Most organizations have formal procurement policies and buying organizations. When such procurement support is not available, the project team should supply both the resources and the expertise to perform such procurement activities.

Contract types : All legal contractual relationships generally fall into one of two broad families:

either fixed-price or cost-reimbursable.

10

10

Importance of Project Procurement Management

- **Project procurement management**
 - Acquiring goods and services for a project from outside the performing organization
- **Main processes**
 - **Planning procurement management:** determining what to procure and when and how to do it
 - **Conducting procurements:** obtaining seller responses, selecting sellers, and awarding contracts
 - **Controlling procurements:** managing relationships with sellers, monitoring contract performance, making changes as needed, and closing out contracts

11

Project Procurement Management

Identifying which project needs can best be met by using products or services outside the organization

- Involves deciding *whether to procure, how to procure, what to procure, how much to procure, and when to procure*
- An important *output of this process is the make-or-buy decision*
- If there is no need to buy any products or services from outside the organization, then there is no need to perform any of the other procurement management processes

12

Types of Contracts

Different types of contracts can be used in different situations

- **Fixed price or lump sum contracts:** involve a fixed total price for a well-defined product or service
- **Cost-reimbursable contracts:** involve payment to the seller for direct and indirect costs
- Cost plus incentive fee, cost plus fixed fee, and cost plus percentage of costs
- Time and material contracts: hybrid of both fixed price and cost reimbursable contracts
- Unit price contracts: require the buyer to pay the seller a predetermined amount per unit of service

13

Fixed price contracts/ variants

Fixed-price contracts. This category of contracts involves setting a fixed total price for a defined product, service, or result to be provided. These contracts should be used when the requirements are well defined and no significant changes to the scope are expected. Types of fixed-price contract include:

Firm fixed price (FFP). The most commonly used contract type is the FFP. It is favored by most buying organizations because the price for goods is set at the outset and not subject to change unless the scope of work changes.

Fixed price incentive fee (FPIF). This fixed-price arrangement gives the buyer and seller some flexibility in that it allows for deviation from performance, with financial incentives tied to achieving agreed-upon metrics. Typically, such financial incentives are related to cost, schedule, or technical performance of the seller. Under FPIF contracts, a price ceiling is set, and all costs above the price ceiling are the responsibility of the seller.

Fixed price with economic price adjustments (FPEPA). This type is used whenever the seller's performance period spans a considerable period of years, or if the payments are made in a different currency. It is a fixed-price contract, but with a special provision allowing for predefined final adjustments to the contract price due to changed conditions, such as inflation changes or cost increases (or decreases) for specific commodities.

14

14

Cost Price / Variants

Cost-reimbursable contracts. This category of contract involves payments (cost reimbursements) to the seller for all legitimate actual costs incurred for completed work, plus a fee representing seller profit. This type should be used if the scope of work is expected to change significantly during the execution of the contract.

Cost plus fixed fee (CPFF). The seller is reimbursed for all allowable costs for performing the contract work and receives a fixed-fee payment calculated as a percentage of the initial estimated project costs. Fee amounts do not change unless the project scope changes.

Cost plus incentive fee (CPIF). The seller is reimbursed for all allowable costs for performing the contract work and receives a predetermined incentive fee based on achieving certain performance objectives as set forth in the contract. In CPIF contracts, if the final costs are less or greater than the original estimated costs, then both the buyer and seller share costs from the departures based upon a prenegotiated cost-sharing formula, for example, an 80/20 split over/under target costs based on the actual performance of the seller.

Cost plus award fee (CPAF). The seller is reimbursed for all legitimate costs, but the majority of the fee is earned based on the satisfaction of certain broad subjective performance criteria that are defined and incorporated into the contract. The determination of fee is based solely on the subjective determination of seller performance by the buyer and is generally not subject to appeals.

15

15

Types of Contracts

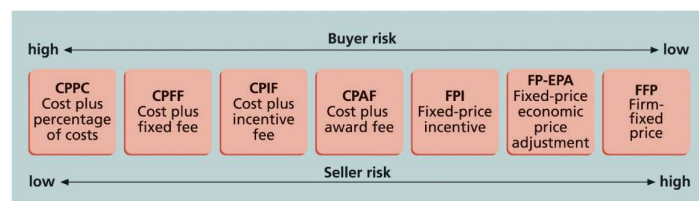


FIGURE 12-2 Contract types versus risk

16

Contract / Risk ownership

Type of Contract	Risk owner	Explanation
Time and Material	Buyer	The buyer pays the seller for all time and materials the seller applies to the project. The buyer bears the most risk of cost overruns.
Fixed Price	Seller	Since the price is fixed, cost overruns may not be passed on to the buyer and must be borne by the seller.
Cost Plus Fixed Fee	Buyer	Since all costs must be reimbursed to the seller, the buyer bears the risk of cost overruns.
Cost Plus Incentive Fee	Buyer and Seller	The buyer bears most of the risk here, but the incentive fee for the seller motivates that seller to keep costs down.

17

17

Media Info

Contract incentives can be extremely effective

- On August 1, 2007, tragedy struck Minneapolis, Minnesota, when a bridge on I-35W collapsed, killing 13 motorists, injuring 150 people, and leaving a mass of concrete and steel in the river and on its banks.
- Peter Sanderson, project manager for the joint venture of Flatiron-Manson led his team in completing the project
- The contractors earned \$25 million in incentive fees on top of their \$234 million contract for completing the bridge three months ahead of schedule
- MnDOT justified the incentive payment by saying that each day the bridge was closed it cost road users more than \$400,000

18

Approaches to Contracts

Least Cost - This may work well when the quality is not in question. (an ISO standard)

Qualifications Only - When a product or service is small enough that it does not warrant an elaborate procurement process, the buyer may use “qualifications only” as the sole criterion.

Quality-Based (technical score) - Most procurements come down to value (quality and cost). The seller with the highest quality ranking is selected if a suitable financial arrangement can be negotiated.

Quality and Cost-Based - This is very similar to the previous one except that quality and cost are both ranked and are both considered in the decision.

Sole Source - This is an unusual type of proposal that is requested from only one vendor. In that case, the buyer negotiates with that one seller. There is no competition in this scenario, which can eliminate much of the benefit of conducting a procurement.

Fixed Budget - In this procurement scenario, the buyer discloses the budget to the seller, and the two parties negotiate on scope, quality, and schedule. This type of procurement would not work well when scope changes are anticipated.

19

Types of Contracts

Contracts should include specific clauses to take into account issues unique to the project

- Time and material contracts and unit-price contracts can be high or low risk, depending on the nature of the project and other contract clauses
- A termination clause allows the buyer or supplier to end the contract

20

Planning Procurement

Typical steps in Planning of procurement :

- Prepare the procurement statement of work (SOW) or terms of reference (TOR).
- Prepare a high-level cost estimate to determine the budget.
- Advertise the opportunity.
- Identify a short list of qualified sellers.
- Prepare and issue bid documents.
- Prepare and submit proposals by the seller.
- Conduct a technical evaluation of the proposals including quality.
- Perform a cost evaluation of the proposals.
- Prepare the final combined quality and cost evaluation to select the winning proposal.
- Finalize negotiations and sign contract between the buyer and the seller. 21

21

Tools and Techniques

Several tools and techniques are available to help project managers and their teams in planning procurement management

- **Make-or-buy analysis**
 - General management technique used to determine whether an organization should make or perform a particular product or service inside the organization or buy from someone else
- **Expert judgment**
 - Experts both from inside and outside an organization can provide excellent advice in planning purchases and acquisitions
- **Market research**
 - Many potential suppliers are often available for goods and services, so the project team must choose suppliers carefully

22

Procurement Management Plan

Describes how the procurement processes will be managed, from developing documentation for making outside purchases or acquisitions to contract closure

Contents varies based on project needs

23

Statement of Work

A statement of work (SOW) is a description of the work required for the procurement

- If a SOW is used as part of a contract to describe only the work required for that particular contract, it is called a contract statement of work
- A contract SOW is a type of scope statement
- A good SOW gives bidders a better understanding of the buyer's expectations

24

Statement of Work

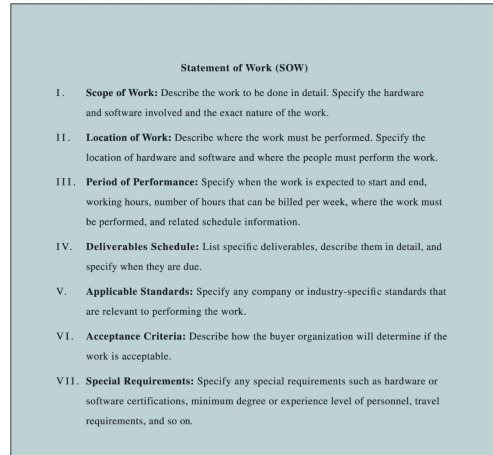


FIGURE 12-3 Statement of work (SOW) template

25

Procurement of Bid Documents

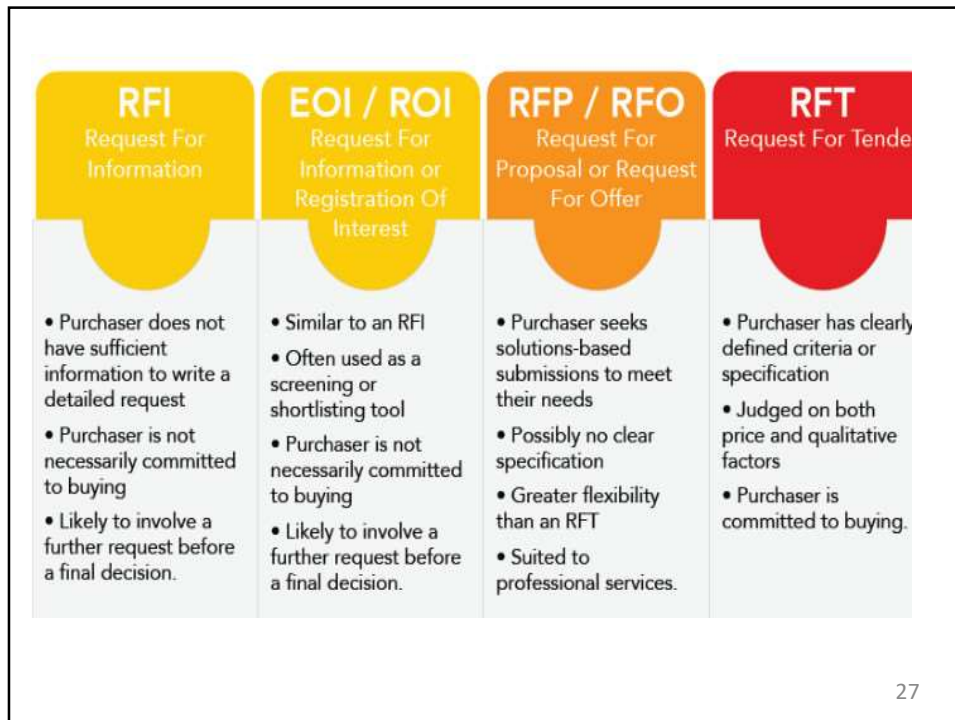
Request for Proposals: used to solicit proposals from prospective sellers

A proposal is a document prepared by a seller when there are different approaches for meeting buyer needs

Requests for Quotes: used to solicit quotes or bids from prospective suppliers

A bid, also called a tender or quote (short for quotation), is a document prepared by sellers providing pricing for standard items that have been clearly defined by the buyer

26



27

RFP

Government agencies are often required to make procurement information open to the public

It's very important for buyers to clarify what they want so that sellers can respond appropriately

28

Source Selection Criteria

It's important to prepare some form of evaluation criteria, preferably before issuing a formal RFP or RFQ

Organizations use criteria to rate or score proposals, and they often assign a weight to each criterion to indicate its importance

Beware of proposals that look good on paper

Be sure to evaluate factors, such as past performance and management approach

Some projects also require potential sellers to deliver a technical presentation as part of their proposal

The proposed project manager should lead the potential seller's presentation team

29

Conducting Procurements

Steps after planning for procurement management

- Decide whom to ask to do the work/ Identify potential bidders
- Send appropriate documentation to potential sellers
- Obtain proposals or bids
- Select a seller
- Award of contract

30

Conducting Procurements

Approaches for procurement

Organizations can advertise to procure goods and services in several ways

- Approaching the preferred supplier

- Approaching several potential suppliers and taking bids

A bidders' conference can help clarify expectations

Meeting with prospective sellers prior to preparation of their proposals or bids

31

Conducting Procurements

Criteria	Weight	Proposal 1		Proposal 2		Proposal 3		Etc.	
		Rating	Score	Rating	Score	Rating	Score		
Technical approach	30%	90	27	80	24	70	21		
Management approach	30%	85	25.5	75	22.5	85	25.5		
Past performance	20%	95	19	70	14	75	15		
Price	20%	75	15	95	19	80	16		
Total score	100%		86.5		79.5		77.5		

FIGURE 12-4 Sample proposal evaluation sheet

32

Conducting Procurements

Seller selection

- After developing a short list of possible sellers, organizations often follow a more detailed proposal evaluation process
- It is customary to have contract negotiations during the source selection process
- Sellers on the short list often prepare a best and final offer (BAFO)
- Final output is a contract signed by the buyer and the selected seller

33

Controlling Procurements

Ensures the seller's performance meets contractual requirements

- Contracts are legal relationships, so it is important that legal and contracting professionals be involved in writing and administering contracts
- Project team members must be aware of potential legal problems they might cause by not understanding a contract

It is critical that project managers and team members watch for constructive change orders

- Oral or written acts or omissions by someone with actual or apparent authority that can be construed to have the same effect as a written change order

34

Controlling Procurements

Suggestions for change control in contracts

- Changes to any part of the project need to be reviewed, approved, and documented by the same people in the same way that the original part of the plan was approved
- Evaluation of any change should include an impact analysis
- Changes must be documented in writing
- Project managers and teams should stay closely involved to make sure the new system will meet business needs and work in an operational environment
- Have backup plans
- Use tools and techniques, such as a contract change control system, buyer-conducted performance reviews, inspections and audits, etc.

35

Controlling Procurements

Closing procurements

- Involves completing and settling contracts and resolving any open items
- The project team should determine if all work was completed correctly and satisfactorily, update records to reflect final results, and archive information for future use
- The contract itself should include requirements for formal acceptance and closure

36

Best Practice

Procurement can be more intelligent

Data scientists build predictive models to analyze big data related to finance, marketing, etc.

Why not model procurement processes?

Behavioral economists know that people do not act rationally

Why not apply irrationality to your advantage in negotiations?

Quality control/assurance departments encourage employees to suggest quality improvements all the time

Why not enable your workers to be on the lookout for additional new and innovative suppliers?

Crowdsourcing solicits ideas from a large group of people

Can it apply to some of your organization's procurements?

37

Controlling Procurements

Tools to assist in contract closure

- Procurement audits identify lessons learned in the procurement process
- A records management system provides the ability to easily organize, find, and archive procurement-related documents
- Ideally, all procurements should end in a negotiated settlement between the buyer and the seller; if negotiation is not possible, then some type of alternate dispute resolution such as mediation or arbitration can be used
- Archiving information for future use is particularly important

38

Using Software to Assist in Project Procurement Management (1 of 2)

- Word-processing software: write proposals and contracts
- Spreadsheet software: create proposal evaluation worksheets
- Databases: track suppliers
- Presentation software: present procurement-related information
- E-procurement software: electronic procurement functions

39

Using Software in Project Procurement Management

Procure-to-pay suite: provides support for indirect procurements

- E-purchasing functionality
- Catalog management capabilities
- E-invoicing
- Accounts Payable Invoice Automation
- Procurement Audits

40

Considerations for Agile/Adaptive Environments

Agile Manifesto values customer collaboration over contract negotiation, setting an important tone for procurement relationships on agile projects

- The buyer and seller should work together to create the required products and services throughout the entire procurement process

Another goal of agile/adaptive environments is speed

- Several procurements, however, take time

Processes of project procurement management follow a clear, logical sequence

- Project managers and their teams must follow good project procurement management

41

Thank You

42

42