Defense Acquisition University

Indirect Costs: Possibly your biggest contract Cost Driver!

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Why this topic….

1. Increase knowledge of indirect costs – why have them and how do they work
2. Enhance understanding – why and how indirect cost rates can change
3. Realize government decisions to delay or cancel programs can impact other programs
4. Grasp why increased indirect cost rates have a potential negative impact on many government contracts

Importance

- ☑ Volume of government contracts – substantial percentage of DoD dollars are used for contracts
- ☑ Indirect costs represent a large part of total contract costs
- ☑ Indirect costs are important to contractors on **all** contracts, but most important to government on cost reimbursement contracts
- ☑ Indirect cost rates can change—usually higher
- ☑ Higher indirect cost rates usually = need more for the contract

Indirect Cost Rates – Why have them?

- Indirect rates is the way of making sure that the total cost of whatever we build includes its FAIR SHARE of all the costs incurred in the general operation of the business and not specifically applicable to any one product line, program or contract.
- What are you paying for when you buy a candy bar?
  - The specifically applicable, *direct* costs of the candy bar itself: sugar, cocoa, preservatives, paper, ink, packaging, etc. . . .
- What else is included in that price?
  - Little pieces of . . .
    - Machinery that makes many kinds of candy
    - Shipping department
    - Personnel and security departments
    - CEO's salary
    - Environmental clean-up projects
    - Research into new candy bars!

The Overhead and G&A rates determine how much to include in the total cost of making the candy bar or tank or plane or ship. Its fair share.

Language of Accounting

A few basic terms and concepts…..

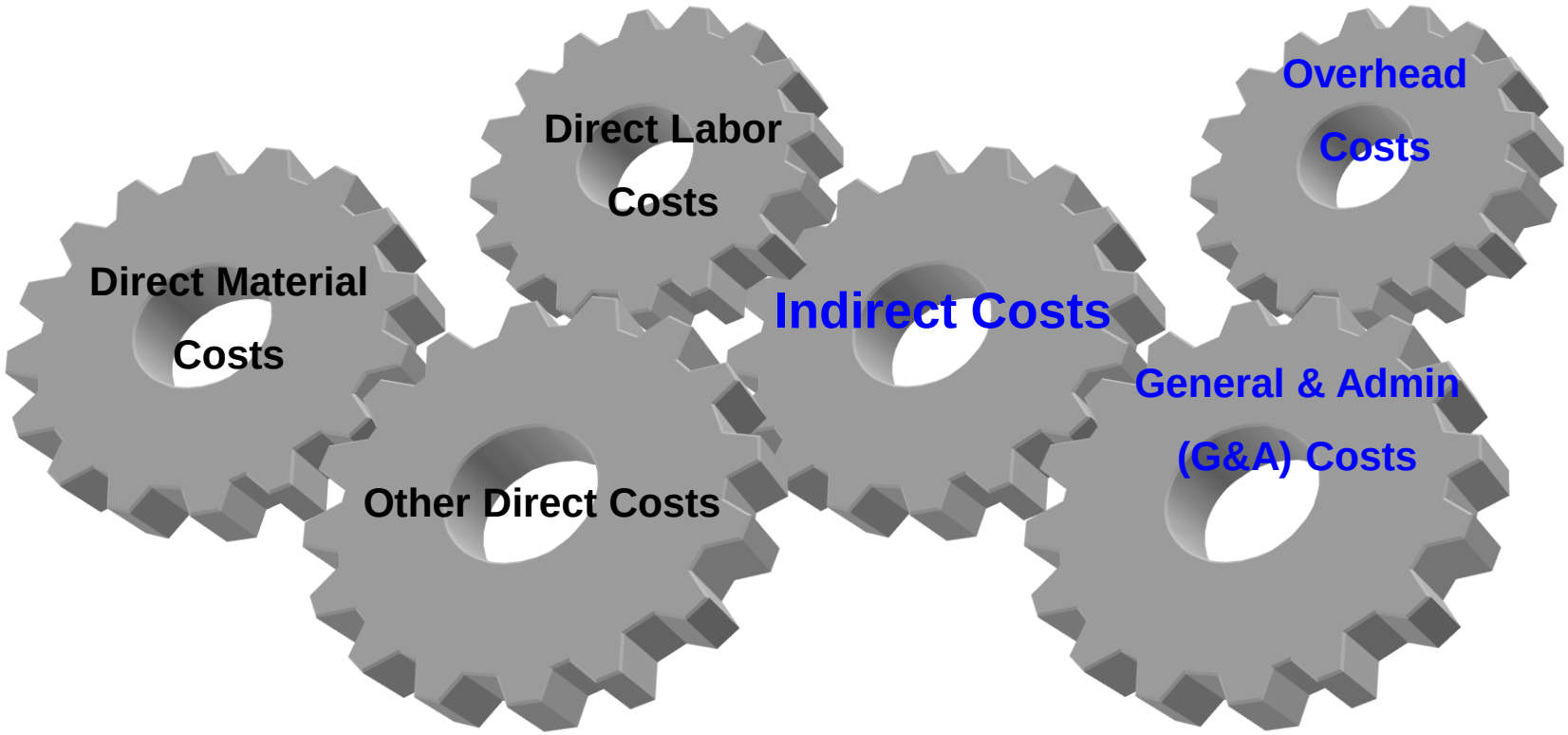
Key to focusing on Indirect Costs Rates and how they work.

To Earn the first dollar of profit, all costs must be recovered….

Total costs = Direct Costs + Indirect Costs

A Few Terms…..

Total Costs = Direct Costs + Indirect Costs



Cost Objective

Contract

Production Line

Product

A contract or other work unit for which cost data are desired and provisions made in the accounting system to accumulate and measure costs.

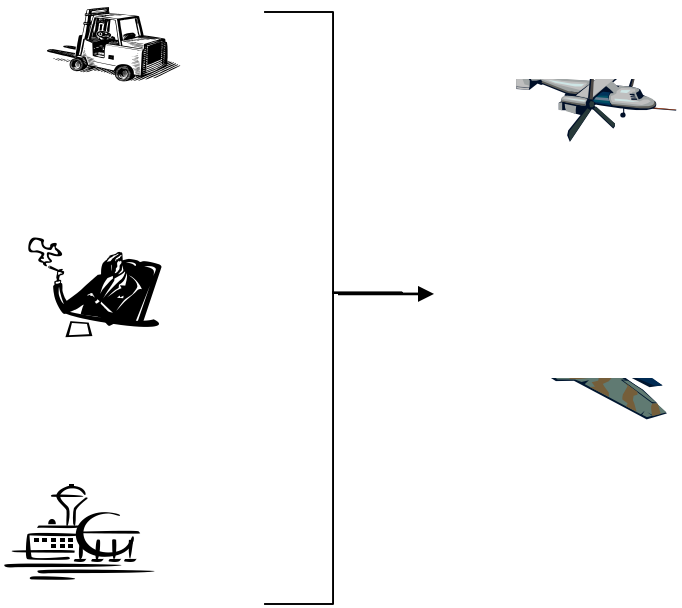
Direct Costs

Product

- **Material**
- **Labor**
- **Subcontracts**

A cost that can be tracked **directly** to ***one*** specific cost objective. Includes direct materials, direct labor and other costs **traceable** direct to that single cost objective.

Indirect Costs



A cost **not** directly identified with one specific cost object but identified with ***two or more*** cost objectives.

Indirect Cost Categories

Overhead Cost (OH):

- Support costs having similar causal/beneficial (homogeneous) relationship to the production ***function*** (not product) being supported
- e.g. Engineering Overhead to Direct Engineering Labor

General and Administrative (G&A):

- Support costs of doing business as a ***whole***
- e.g. Human Resources

Intermediate (or Secondary) Service Pools:

- Contractor's prerogative to aggregate cost separately as deemed appropriate
- Costs are subsequently distributed to direct charges or primary indirect pool (OH or G&A)
- e.g. Facility Use & Occupancy, Computer Services

Indirect Cost Pools

Definition:	A collection of indirect costs that are **similar** to each other.
Process:	Determine what makes the indirect costs **similar**; put **similar** costs in a named "account" (in the financial accounting records); and allocate cost pool to the benefiting cost objectives on *pro rata share.*
Why Have them?	Putting **similar** indirect costs together in a pool and spreading (allocating) those costs to cost objectives can be done with one mathematical calculation versus many.

Indirect Cost Pools - (continued)

Cost Pool Examples:

Engineering Overhead (includes cost of indirect engineering labor, fringe benefits relating to that labor, supplies for the engineers, etc.)

Material Handling Overhead (includes cost of equipment to move materials, warehouse labor storage, etc.)

Facilities Overhead (includes cost of building rent and maintenance, utilities, supplies for the building, etc.)

General and Administrative (G&A) (includes cost for senior managers, HR office, IT, controller, etc.)

Allocating Intermediate Service (Secondary) Pools: Use and Occupancy

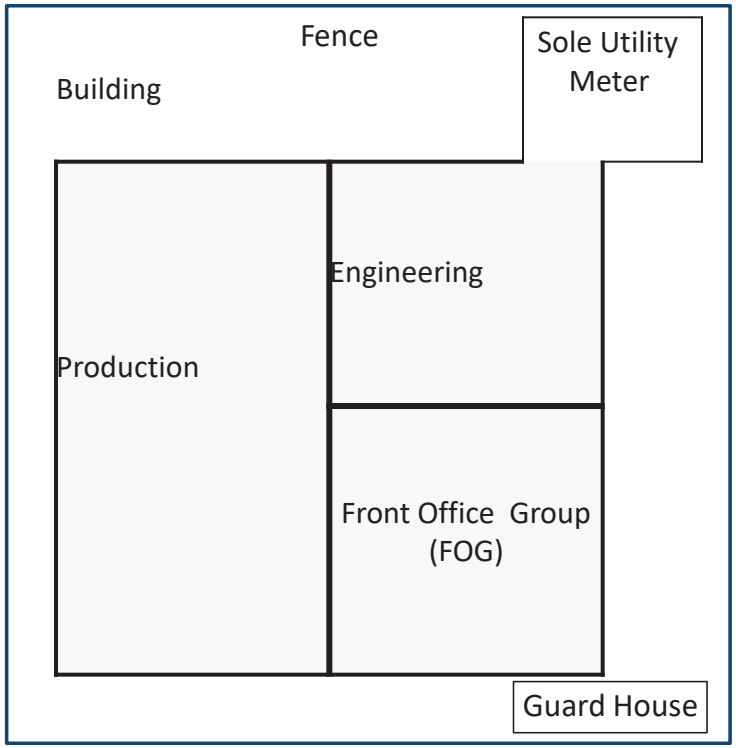
Scenario: A company has a single $10M "Use and Occupancy" (U&O) secondary pool which accumulates the rent, utilities (one meter), and security (one guard). Having a single pool provides management insight for cost control.

Recall the bases available for Secondary Pools can typically be for: Payroll Dollars, Head Count, or Square Footage.

Consider the following with respect to the square footage for each major part of the operation:

- The production operation uses 1/2 of the facility.
- The front office group (or FOG) sitting up front greeting customers takes up 1/2 of the remaining space (a total of 1/4th of the plant space).
- The engineers sitting behind the FOG (so as to guard their proprietary secrets) take up 1/2 of the remaining space (a 1/4th of the plant space).

How would you logically allocate $10M U&O cost to specific primary pools for production, engineering, and the FOG?



Projector Exercise

Projector Cost Exercise: Identifying and Classifying Cost into Homogeneous Cost Pools

Direct	Indirect OH	Indirect G&A		Intermediate Service Pool
Bulb Lens Labeling Case Circuit board Fan Remote	Wiring Shipping Screws Packaging Inventory control Purchasing	R&D Marketing Mgt. (FOG) Travel Legal Customer svc HR Fringe Clerical Accounting IT Office supplies Trans Training		Main Plant -Utilities -Bld. Ins. -Rent -Security ---------- Computer Facility -Mainframe -Maintenance -Security ----------
Design Tech docum Test Spec config	Test equip Super & Clerical CAD Training			
Fabricators Quality assemblers	Super & Clerical Training Jigs/fixtures			

Direct Mat'l

Mat'l OH

Direct ENG

ENG OH

Direct Mfg

Mfg OH

The Equation

$$R = \frac{P}{B}$$

(O/H + G&A)

[Indirect Costs]

Pool costs

Base costs

[Direct costs]

(e.g. - Direct Labor)

Calculation of Indirect Cost Rate

$$\text{Indirect Cost Rate *(For a Given Cost Pool)} = \frac{\text{Total Indirect Costs in Given Pool}}{\text{*Applicable Allocation Base}}$$

Examples

*Cost Pool Types		*Applicable Allocation Base:
Manufacturing Overhead	-	Direct Manufacturing Labor Dollars
Manufacturing Overhead	-	Direct Manufacturing Labor Hours
Engineering Overhead	-	Direct Engineering Labor Dollars
Engineering Overhead	-	Direct Engineering Labor Hours
Material Handling	-	Direct Materials Costs
G & A Costs	-	Total Cost Other than G&A

Calculation of Indirect Cost Rates

Calculate the rates for each pool – with G&A rate based on a Total Cost Input basis

Company XYZ has the following direct and indirect costsRate = Pool / Base

Material Handling Expense Pool	$ 500	$ 500 / $ 5,000 = 10 %
Direct Material Cost	$ 5,000	Mtl Hdlg Rate = 10%
Engineering Overhead Expense Pool	$ 320	$ 320 / $ 400 = 80 %
Engineering Direct Labor Cost	$ 400	Eng O/H Rate = 80%
Manufacturing Overhead Expense Pool	$ 5,200	$5,200 / $ 1,600 = 325 %
Manufacturing Direct Labor Cost	$ 1,600	Mfg O/H Rate = 325%
Other Direct Costs (ODC)	$ 1,000	
Total Cost Input	$ 14,020	$ 1,680 / $ 14,020 = 12%
General & Administrative Expense Pool	$ 1,680	G & A Rate = 12%

Allocation of Indirect Costs

Using rates previously calculated, develop the total cost of a program, project or product with indicated direct costs

Direct and Allocated Indirect Costs		Base x Rate = Allocation
Direct Material Cost	$ 25.00	
Allocated Material Handling Expenses	$ 2.50	$ 25 x 10 % = $ 2.50
Engineering Direct Labor Cost	$ 60.00	
Allocated Engineering Overhead Expenses	$ 48.00	$ 60 x 80 % = $ 48.00
Manufacturing Direct Labor Cost	$ 50.00	
Allocated Manufacturing Overhead Expenses	$ 162.50	$ 50 x 325 % = $ 162.50
Other Direct Costs (ODC)	$ 10.00	
Total Cost Input	$ 358.00	
Allocated General & Administrative Expenses	$ 42.96	$ 358 x 12 % = $ 42.96
Total Cost for Program	$ 400.96	

Applying the company-level rates for a specific project.

Computation of Total Cost of A Project

Cost Accounting for Direct and Indirect Costs

Direct Materials
$ 25

Direct Labor - Engineering
$ 60

Direct Labor - Manufacturing
$ 50

Other Direct Costs
$ 10

Project A
Cost Objective

Direct Materials	**$ 25.0**
DL – Engineering	**60.0**
DL – Manufacturing	**50.0**
Other Direct Costs	**10.0**
Total Direct Costs	**$ 145.0**
Overheads	
Materials Handling	**$ 2.5**
Indirect Engineering	**$ 48.0**
Indirect Manufacturing	**$ 162.5**
Total Cost Input	**$ 358.0**
General & Admin Costs	**$ 42.96**
Project Total Cost	**$ 400.96**

Materials Handling
$ 25 x 10%

Indirect Engineering
$ 60 x 80%

Manufacturing Overhead
$ 50 x 325%

General & Administrative
$ 358 x 12%

Applying the company-level rates for a specific project.

Management of Indirect Costs

For Cost Reimbursement Contracts:

- Contractor is responsible for setting up indirect cost pool accounts and managing all indirect costs incurred on Defense contracts.

- Contractors are required to set up a ***minimum of two*** types of indirect cost pools for Defense contracts: "**Overhead**": supports a specific part or function of company "**G&A**": supports general operations of company rather than any one specific part.

- No maximum number of indirect cost pools, but……

Management of Indirect Costs - (continued)

•Considerations for establishing indirect cost pools and determining cost allocation basis (i.e., rates):

✓The FAR [31-203(b)] requires indirect costs be accumulated by logical cost groupings.

✓The CASB states "homogeneous costs" are to be aggregated in a separate cost pool.

✓EVMS guidelines address indirect cost management – it is one of nine EVM business processes. Three of the thirty-two EVMS guidelines specially cover overhead management; recording and allocating indirect costs; and analyzing indirect cost variances.

✓Allocation of cost pools should be done on a base common to all cost objectives to which the costs will be allocated.

Note: CASB=Cost Accounting Standards Board (unique to Federal Government)

Management of Indirect Costs - (continued)

Government allows contractors to use one or more of the following factors as the base to determine their indirect cost allocation rates :

Base	To Determine
Direct Labor Dollars, Direct Labor Hours	Manufacturing and Engineering Overhead
Direct Material Dollars	Material Handling
Total Cost Input (TCI) (All costs except G&A)	G&A Costs

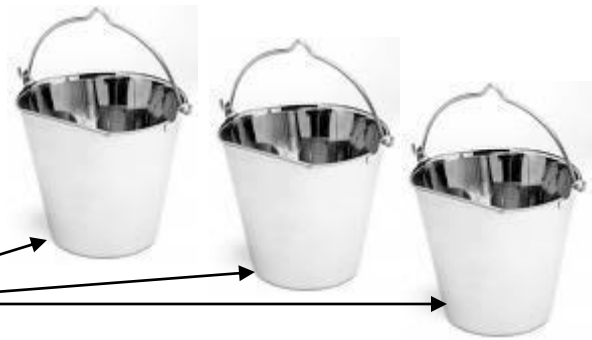
Quick Review

Types of Costs

Direct Costs

Indirect Costs

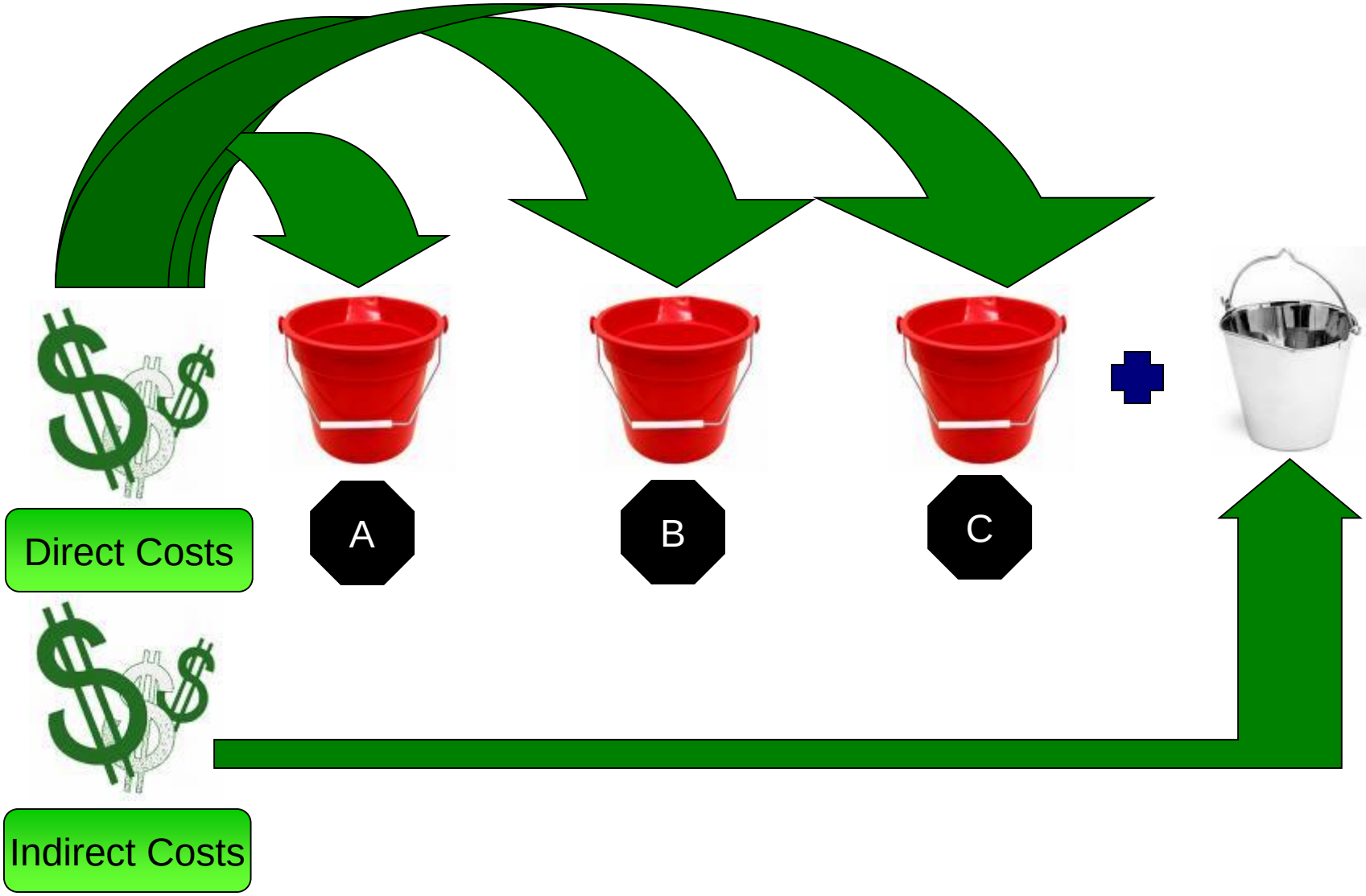
Indirect Cost Pools



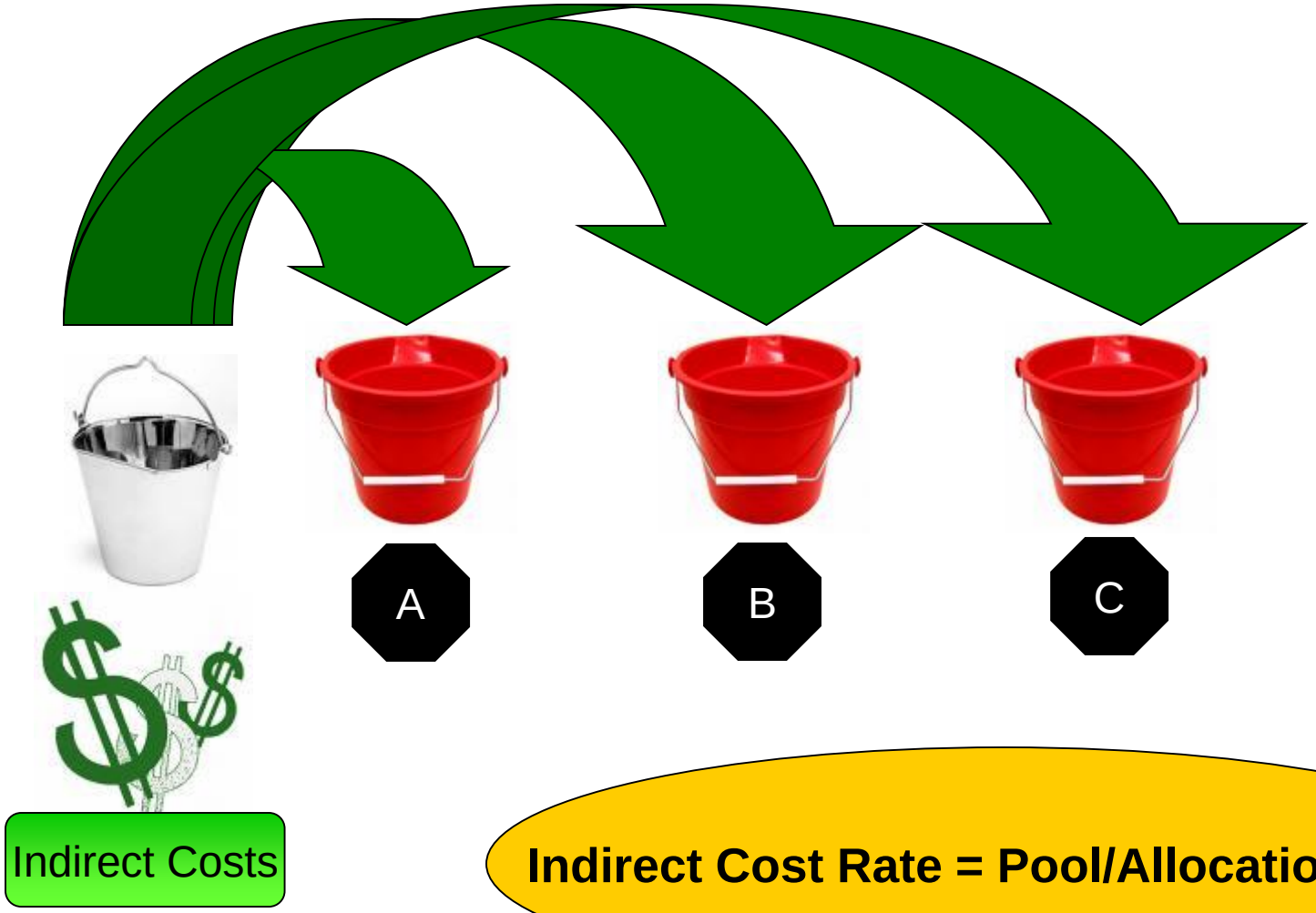
Cost Objectives

Total Costs = Direct Costs + Indirect Costs

Total Project Cost



Indirect Costs Allocation



Indirect Cost Rate = Pool/Allocation Base

Indirect Costs Allocation

Fixed Cost Example – Allocation Base: Square Footage

Indirect Costs

$120,000

A

20,000 SQ. FT

B

30,000 SQ. FT

C

10,000 SQ. FT

Rate = $\frac{\$120,000}{60,000}$

= $2.00@sq.ft

Indirect Cost Rate = Pool/Allocation Base

Indirect Costs Allocation

Rate = $\frac{\$120,000}{60,000}$
= $2.00@sq.ft

A	B	C
20,000 SQ. FT	**10,000 SQ. FT**	**30,000 SQ. FT**
X 2.00 @ sq.ft	X 2.00 @ sq.ft	X 2.00 @ sq.ft

Indirect Costs

$120,000 = $40,000 + $20,000 + $60,000

Questions

Cost Reimbursement Contract

On a Cost Reimbursement Contract,
What Costs will the
Government Reimburse the Contractor?

Answer: The government will pay all "allowable" costs

- Direct costs are generally allowable if they are reasonable
- Allowability issues generally occur with indirect costs

There is no commercial market equivalent to the concept of "allowable" costs

Rate Sensitivity: A matter of the Base

So how much to include in the base?

- Continued performance of firm existing contracts?
- How about known (identified), but not yet committed business?
  - Change proposals
  - Options? ……will it get funded?
  - Follow-ons? The likelihood they get funded and chances of winning?
- Factor in anything that might just be out there?
  - Economic growth in industry
  - Bluebirds

Base Implications on Rate

Optimistic Base: that does NOT materialize.

$$\downarrow R = \frac{\text{Pool}}{\text{Base}\uparrow} \qquad \uparrow R = \frac{\text{Pool}}{\text{Base}\downarrow}$$

Estimated/Projected | Actual Materialized

- **Optimistic Base** likely used when submitting proposal for:
  Sole Source buys or Competitive Acquisitions?

- **Influence of Contract Type**:

  If FFP: the successful offeror must live with bid and the rates used therein; base assumptions tend to be more realistic.

  If CPFF: should optimistic base not materialize, regardless of forward rates proposed, the billing/final rates will rise to increase cost vouchers invoiced.

Base Implications on Rate

Pessimistic Base: that does NOT materialize.

$$\uparrow R = \frac{\text{Pool}}{\text{Base}\downarrow} \qquad \downarrow R = \frac{\text{Pool}}{\text{Base}\uparrow}$$

Estimated/Projected | Actual Materialized

- **Pessimistic Base** likely used when submitting proposal for:

  Sole Source buys or Competitive Acquisitions?

- **Influence of Contract Type**:

  If CPFF: pessimism in the base manifests only to increase estimated or target cost at contract award; lower billing/final rates for actual invoices

  If FFP: pessimism in the base increasing the forward rate results in higher FFPs that will get paid even with lower rates actually materializing after award.

Distortion in allocations (labor $ vs. labor hrs.)

Scenario: The engineering supervisor making $300K/yr charges her salary to the engineering OH support pool. She supervises two teams. Each team works 12,480 hrs (6 @ 2080 hrs/yr). The Senior team is working the high power project A makes an average of $100/hr. Junior team is working the low power project B makes on average $50/hr.

How much of the engineering supervisor's $300,000/yr salary charged to Eng. OH will get allocated (charged) to each projector project A and B for the year?

Allocation Basis:	**High Power Projector A Senior Team A (avg. $100/hr.)**	**Low Power Projector B Junior Team B (avg. $50/hr.)**
Direct Lbr. Hrs. (@ 2,080/year)	**$150,000**	**$150,000**
Direct Lbr. Dollars ($) Charged	**$200,000**	**$100,000**

With Team A lbr. cost twice that of Team B ($100 avg. rate/hr. ÷ $50 avg. rate/hr.)

- IF you were to conduct a floor study, with which team might you expect the engineering supervisor to be spending the majority of her time with? The senior team? Or, the junior team? (circle one)
- Based on your answer to the question immediately above, which method yields less distortion than the other? Labor hours? Or labor $?

Advisory & Assistance Services (A&AS)
Are there really "normal" indirect cost rates?

Scenario: An Advisory & Assistance Services (A&AS) contract's schedule stipulates a wrap-around rate (FBLR) of $181.50/hr. be billed for each hour worked by a regular engineer.

Of the $181.50/hr. billing rate:

- **How much goes to paying the individual support engineer?**
- **How much goes to paying the indirect (OH/G&A) cost?**
- **How much goes to paying the contractor's profit?**

DL Rate	$ 50.00/hr
OH (200%)	$100.00 /hr
Subtotal	$150.00 /hr
G&A (10%)	$ 15.00 /hr
Subtotal	$165.00 /hr
Profit (10%)	$ 16.50 /hr
Total	$181.50 /hr

A&AS Example (2 of 4)

What if: You assert you perceived a standard OH rate should be 100% instead of 200%. Complete your logical expectations below…

DL Rate	$ 50.00/hr	DL Rate	$ 50.00/hr
OH (200%)	$100.00/hr	OH (100%)	$ 50.00 /hr
Subtotal	$150.00/hr	Subtotal	$100.00 /hr
G&A (10%)	$ 15.00/hr	G&A (10%)	$10.00 /hr
Subtotal	$165.00/hr	Subtotal	$110.00 /hr
Profit (10%)	$ 16.50/hr	Profit (10%)	$11.00 /hr
Total	$181.50/hr	Total	$121.00 /hr

You should logically expect the new billing rate to be $121.00 based on your perception that a "standard" OH rate should be 100%?

A&AS Example (3 of 4)

Consider this: Fringe benefit costs, traceable and trackable to the individual employee, may permissibly be charged as a direct cost rather than an indirect cost.

Supervision and Administrative	$ 10	$ 10
Fringe on S&A at 50%	$ 5	$ 5
Other	$ 60	$ 60
Fringe on DL ($50) at 50%	$ 25	$ 0
Total Pool	$100	$ 75
Base (DL at $50/hr)	$ 50 + $25 =	$ 75
Rate (Pool/Base)	200%	100 %

The $25 Fringe benefit cost for the $50/hr. engineer can be removed from the pool and charged direct.

Without cutting any of their cost, the contractor can actually get to this engineering overhead rate of 100 % to satisfy the optics of a lower rate.

A&AS Example (4 of 4)

So a contractor can deliver on a challenge to reduce their overhead rate from 200% to 100%. But will the billings to the government actually change?

No it will not!

DL Rate	$ 50.00/hr	DL Rate	$ 75.00/hr
OH (200%)	$100.00/hr	OH (100%)	$ 75.00/hr
Subtotal	$150.00/hr	Subtotal	$150.00/hr
G&A (10%)	$ 15.00/hr	G&A (10%)	$ 15.00/hr
Subtotal	$165.00/hr	Subtotal	$165.00/hr
Profit (10%)	$ 16.50/hr	Profit (10%)	$ 16.50/hr
Total	$181.50/hr	Total	$**181.50/hr**

Different Circumstances, Different Support Cost Off-site Test Support Rates (aka. Field Svc. Rates)

Company Engineers
- After making designs behind glass window below.
- Now analyzing test data in a shack out on the desert right. China Lake anybody?

- With the engineers no longer occupying their corporate offices, do corporate home office expenses go down measurably? And with less labor at the home base, what happens to the basic OH rates there?

R = P/B; Pool (P) remains (relatively) the same, Base (B) goes down, Rate (R) goes up.

Off-site Rates (a.k.a. Field Service Rates)

FAR 31.203(f): Separate cost groupings for costs allocable to offsite locations may be necessary to permit equitable distribution of costs on the basis of the benefits accruing to the several cost objectives.

- Originated on development acquisitions involving test/demonstration efforts.
  - Contractor engineers sent to the desert for flight test (paid trip to China Lake).
  - Different circumstances alters extent of company support (indirect cost) being provided to the off-site test support effort.
  - Reduced head count back at corporate *increases* home office indirect cost rates… (aka Base goes down, Rates go up)
- Similar concept application to lower rates over time (e.g. A&AS contracted support).
  - Company engineers placed in Government program offices, not company offices.
  - Brick & mortar footprint of service company home offices reduced over time.
    - Reduced fixed cost leaves mostly variable cost in the indirect pool costs.
    - Considering the base is 100% variable, relatively more variable cost in pools makes these rates more stable relative to changes in business volume.
    - Not only reduced rates, but also rate stability is attractive to customers.
- To remain competitive on service contracts, traditional capital goods contractors reorganize to spin off services sector operations avoid significant PP&E.

Evolving Indirect Cost Rates

Rates Differ Depending on Phase of Contract

Proposal Phase

Close-out Phase

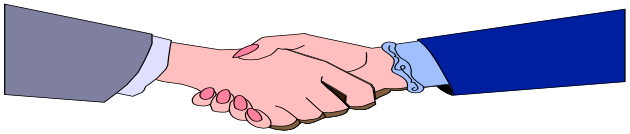
Performance Phase

Note: This concept applies only to cost reimbursement contracts.

Proposal Phase

These are "Future Indirect Rates"

- **Contractor submits to the government –**
  - ✓ A contract proposal per RFP
  - ✓ A Forward Pricing Rate proposal for:
    - – Direct labor rates for various disciplines
    - – Indirect cost rates based on total **estimated** revenues and indirect costs
- **Government evaluates contractor proposals**
- **Government and contractor negotiate both the direct labor rates and indirect cost rates**
- **"Agreed to" rates become part of the contract**
- **Result is Forward Pricing Rate Agreement (FPRA)**



Contract close-out Phase

These are "End-of-Performance Actual Rates"

- Indirect cost pool accounts are audited to verify allowability of costs in that pool
- Valid indirect costs **actually** incurred are compared to indirect costs **estimated** during Proposal Phase and modified during Performance Phase
- "Actual" indirect rates computed based on "actual" indirect costs incurred – subject to negotiation between government and contractor
- Final contract price is based on actual direct costs incurred plus application of "actual" indirect rates = usually, higher costs

Contract close-out takes at least 5 to 7 years after award

Performance Phase

These are "Billing Rates"

- **Billing rates are:**
  - ✓ **Applicable to <u>only</u> indirect costs**
  - ✓ **Based on estimated indirect costs (e.g., overhead)**
  - ✓ **Temporary and applicable during period of contract performance**
  - ✓ **Adjusted during contract performance to reflect indirect costs actually incurred vs. estimates**
- **Importance of billing rates:**
  - ✓ **Basis for invoices and payment to contractor**
  - ✓ **Reimbursement of contractor's actual indirect costs in timely manner**

Why Indirect Cost Rates Change

Causes Internal to company—

- Lose focus on indirect costs—improperly managed
- Estimates of future business incorrect – revenue base used to develop estimates
- Increased material and labor costs due to inefficiencies—scrap, rework, turnover of personnel

Causes External to company—

- Government programs delayed – originally included in business base for developing estimates
- Government programs cancelled – same as programs delayed
- Vendors increase their prices

Change in Allocation Base

Impact of change……

If allocation base decreases – indirect cost rates **increase**

If allocation base increases – indirect cost rates decrease

Assuming Total Indirect Costs in a given pool remain unchanged.

Indirect Costs Allocation

Rate = $\frac{\$120,000}{60,000}$
= $2.00@sq.ft

A	B	C
20,000 SQ. FT	**10,000 SQ. FT**	**30,000 SQ. FT**
X 2.00 @ sq.ft	X 2.00 @ sq.ft	X 2.00 @ sq.ft

Indirect Costs

$120,000 = $40,000 + $20,000 + $60,000

Change of Allocation Base

Loss of Program/Revenue

A

B

C

20,000 SQ. FT

10,000 SQ. FT

30,000 SQ. FT

Indirect Costs

$80,000

$40,000

$120,000 = ~~*$40,000*~~ + ~~*$20,000*~~ + $60,000

Rate = $\frac{\$120,000}{30,000}$

= $4.00@sq.ft

Impact of Increased Rate Changes

Contractor

- ❑Rate increase – impacts competiveness
- ❑Reduces profits or increases losses on fixed price contracts
- ❑Affects Earned Value Management System

Government

- ❑Fixed Price contracts – no cost impact
- ❑Cost Reimbursement – contract costs increase; impacts budgets/funding; affects EAC calculations

Bottom Line

Increased indirect rates usually equate to higher costs.

Depending on type of contract, higher rates could mean additional funding is required:

- ✓Cost Reimbursement – Increased costs resulting in cost overruns and need for additional funds
- ✓FFP – increased costs are borne by contractor; however, this may mean closer scrutiny due to contractor looking for ways to cut costs

Closing

Desired Results of Presentation

- ❑ Increased knowledge of indirect costs and their potential impact on contracts – usually means additional funding will be required, depending on type of contract.
- ❑ Enhanced understanding how indirect cost rates are calculated; the different types of indirect cost rates; and why they change.
- ❑ Understanding that government decisions regarding a program can impact a contractor through no fault of the contractor, which may impact other government programs.

Wrap Up….

QUESTIONS?

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