Introduction to Contracts

The Society of Cost Estimating and Analysis

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Today’s Agenda:

- Procurement Overview
- General Contract Types
  - Fixed-priced
  - Cost-reimbursable
  - Profit/fee
  - Other general contract types
- Regulations and Oversight
- Allowable Cost and CAS
- Methods of Gov’t Financing

Procurement Overview

1. Determine Need Exists → **2. Initiate Procurement** → **3. Analyze Requirement**

1. Determine Need Exists
   - --Acquisition Strategy (AS)
   - --Acquisition Plan (AP)

2. Initiate Procurement
   - --Purchase Request (PR or PID)
   - --Funding
   - --Market Research

3. Analyze Requirement
   - --Specification
   - --Statement of Work (SOW)

4. Sourcing → **5. Solicitation** → **6. Evaluation/ Negotiation**

4. Sourcing
   - --Extent of Competition
   - --Consider Small Business Set Aside
   - --Consider 8(a) procurement

5. Solicitation
   - --Request for Proposal (RFP)
   - --Request for Quote (RFQ)
   - --Request for Info (RFI)

6. Evaluation/ Negotiation

7. Award

General Contract Types

- Fixed-Priced:
  - FFP
  - FPIF/S
  - FPAF
  - FP w/EPA
- Cost-reimbursable:
  - CPFF
  - CPIF
  - CPAF
- Other:
  - Time & Materials
  - IDIQ
  - BOA

Fixed-Priced Contracts

- When to use:
  - Low technical uncertainty/stable design
  - Predictable/controllable level of risk
  - Work can be clearly defined
  - High degree of competition
- Responsibilities:
  - Contractor = Providing product/service
  - Gov’t = Liability limited to negotiated contract price
- Cost implications:
  - Contract amount represents full payment for work (exceeding this amount is at Contractor’s expense)
  - Gov’t may only do <u>price analysis</u>
  - Gov’t may perform <u>cost realism</u>
    - Realistic cost proposed given SOW;
    - Reflects clear understanding of contract requirements;
    - Consistent w/Contractor's technical proposal;

Cost-reimbursable Contracts

- When to use:
  - High technical uncertainties
  - High cost uncertainties
  - High degree of risk
  - Work can only be vaguely defined
  - Low degree of competition
- Responsibilities:
  - Contractor = “Best Effort” only
  - Gov’t = All reasonable, allowable, and allocable cost will be reimbursed
- Cost Implications:
  - Contract amount negotiated only represents an <u>estimate</u> of total costs
  - Gov’t must always perform cost analysis
  - Accounting system must be adequate

Profit or Fee

- Profit => Firm-fixed Priced Contracts
- Fee => Cost-reimbursable Contracts
- Statutory limits on fee (FAR 15.404-4 (c)(4)(i)):
  - R&D = 15%
  - Production & Services not R&D=10%
  - Architecture/Engineering=6%
- Statutory limits on profit:
  - None—but Contracting Officer must not pay more that what is <u>reasonable</u>

Profit/Fee (cont'd)

- Factors to consider in negotiating profit/fee:
  - Contractor effort
  - Cost risk
  - Federal socioeconomic programs
  - Capital Investments
  - Cost control & past performance
  - Independent development
  - Other factors
- Profit/fee commensurate w/Risk:
  - Contractors should accept <u>reasonable</u> risk
  - We should not require Contractors to accept <u>unknown</u> or <u>uncontrollable</u> risk

Profit/Fee—a Structured Approach

- FAR 15.404-4(b)(1) requires <u>structured approach</u>
- Structured Approach for DoD = Weighted Guidelines
  - DD Form 1547 Record of Weighted Guidelines
  - DD Form 1861 Contract Facilities Capital Cost of Money

    Used to estimate the amount and type of each facility employed on the contract; a weight is assigned to each facility type (land, bldgs, equip.) based on the amount of each type of facility employed by the Contractor during the accounting period; result is carried forward to DD Form 1547.

There's a quantitative approach to negotiating profit/fee!

Firm-Fixed Priced (FFP)

- Contract elements:
  - Firm-Fixed Price
- Appropriate when:
  - Low technical or cost uncertainties
  - Low risk
  - Commercial product/service

•No Statutory limits on profit apply!

•Contractor bears significantly more risk than Gov't

Cost-Plus Fixed-Fee (CPFF)

- Contract elements:
  - Estimated Cost
  - Firm-fixed Fee
- Appropriate when nature of work is so uncertain that cost cannot be reasonably or accurately estimated
- All reasonable, allowable and allocable cost will be <u>reimbursed</u>
- Contract amount represents an estimate of total costs as a <u>NTE ceiling</u>
- Contractor cannot exceed total estimated cost w/out Contracting Officer approval

•Contractor must have adequate accounting system

•Statutory limits on fee apply

•Gov’t bears significantly more risk than Contractor

Incentive Contracts

- Appropriate when use of an incentive will motivate Contractor performance;
- Two types:
  - Fixed-Priced Incentive Firm/Successive (FPIF/S)
  - Cost-Plus Incentive Fee (CPIF)
- Typical contract elements:
  - Target cost/price (most likely cost/price)
  - Gov't/Contractor share ratio (e.g. 80/20 or 60/40)
- Typical incentives:
  - Cost
  - Delivery
  - Performance (but hard to measure objectively)

Goal: Avoid Subjectivity!

Types of Incentives

- Cost Incentives:
  - Profit/fee adjustment formulas
- Technical Performance Incentives:
  - Product Characteristics
    - Missile range
    - Engine thrust
    - Aircraft speed
    - Tested MTBF
  - Service Characteristics
    - Avg repair turnover rate
    - Meeting performance milestones on schedule
    - Less than 3% scrap rate (quality incentive)
- Delivery Incentives:
  - Delivery of product/performance of service on schedule

CPIF contracts must use cost as one incentive (may have more)

Cost-Plus Incentive Fee (CPIF)

- Contract elements:
  - Target cost
  - Target fee
  - Minimum fee
  - Maximum fee
  - Share ratio (Gov't/Contractor)
- Fee is objectively determined—depending on how the Incentive Fee Clause is written in contract
- Range of Incentive Effectiveness: the area under the curve between the minimum and maximum fees
  - For every $ over target cost, Contractor loses fee until minimum fee reached
  - For every $ under target cost, Contractor gets additional fee until maximum fee reached

CPIF converts to CPFF at minimum or maximum fee values

Calculating Share Ratios

- Given:
  - Target Cost (C_t)
  - Target Profit/Fee (P_t)
  - Optimistic Cost (C_o)
  - Optimistic Profit/Fee (P_o)
  - Pessimistic Cost (C_p)
  - Pessimistic Profit/Fee (P_p)
- Calculate under- and over-target share ratios
  - Under-run share ratio:

    Contractor: $S_{cu} = (P_t – P_o / C_t – C_o) * 100$

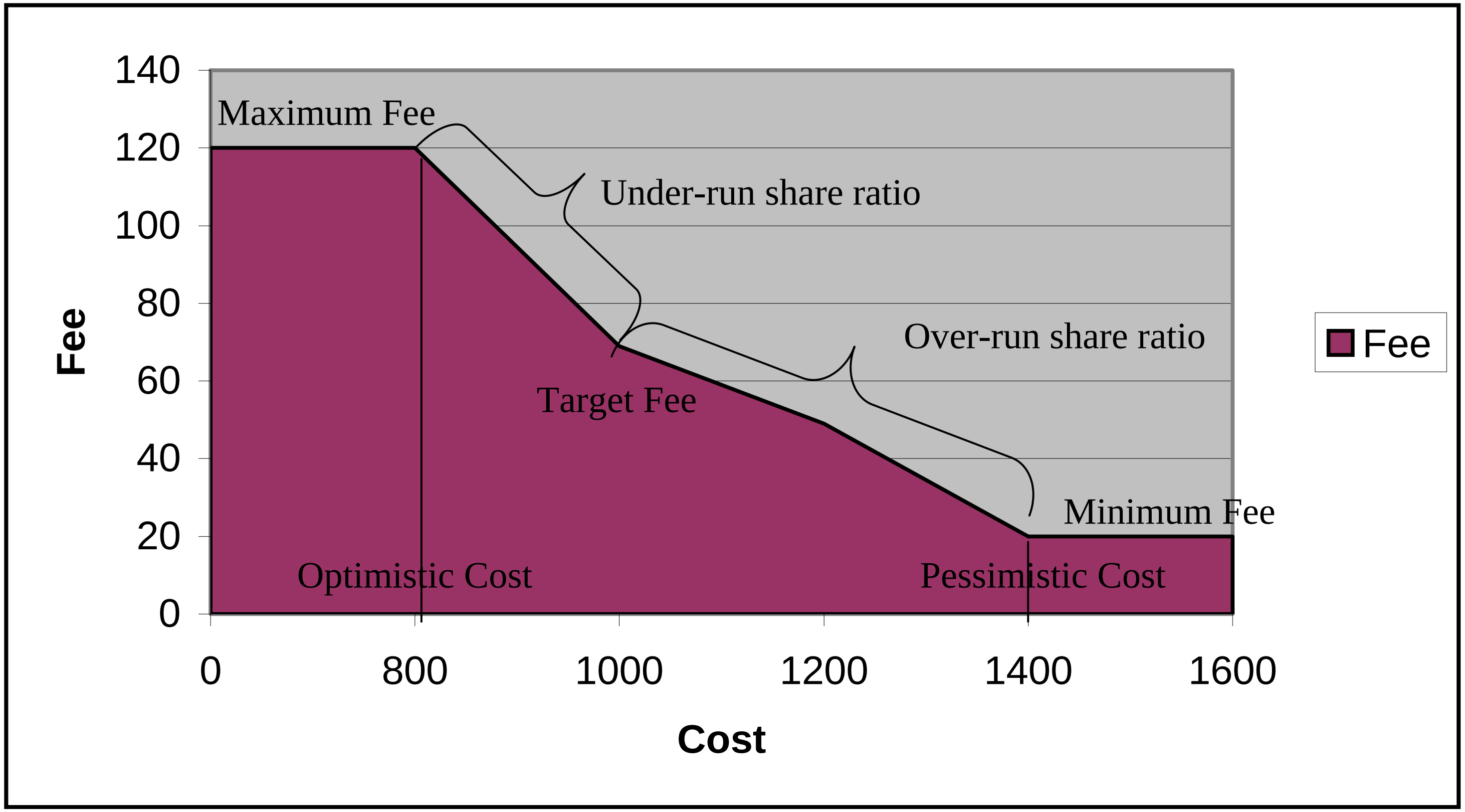
    Govt: $S_{cu} = 1 – S_{cu}$
  - Over-run share ratio:

    Contractor: $S_{co} = (P_t – P_p / C_t – C_p) * 100$

    Govt: $S_{go} = 1 – S_{co}$

Additional Steps for CPIF:

- Set minimum and maximum fee based on structured approach (weighted guidelines)
- Analyze Range of Incentive Effectiveness (RIE)
  - (converts to CPFF beyond this range)



Fixed-Priced Incentive Firm Target (FPIF)

- Contract elements:
  - Target cost
  - Target profit
  - Ceiling price
  - Share ratio (Govt/Contractor)
- Differences from CPIF:
  - No minimum fee
  - No maximum fee
  - Ceiling price
- Point of Total Assumption:
  - beyond the ceiling price, cost risk shifts entirely to Contractor
  - Each additional $ will reduce Contractor profitability

•FPIF has no maximum profit! So long as Contractor is under ceiling price, she/he will make $

•FPIF converts to FFP at PTA

Fixed-Priced Incentive Successive Targets (FPIS)

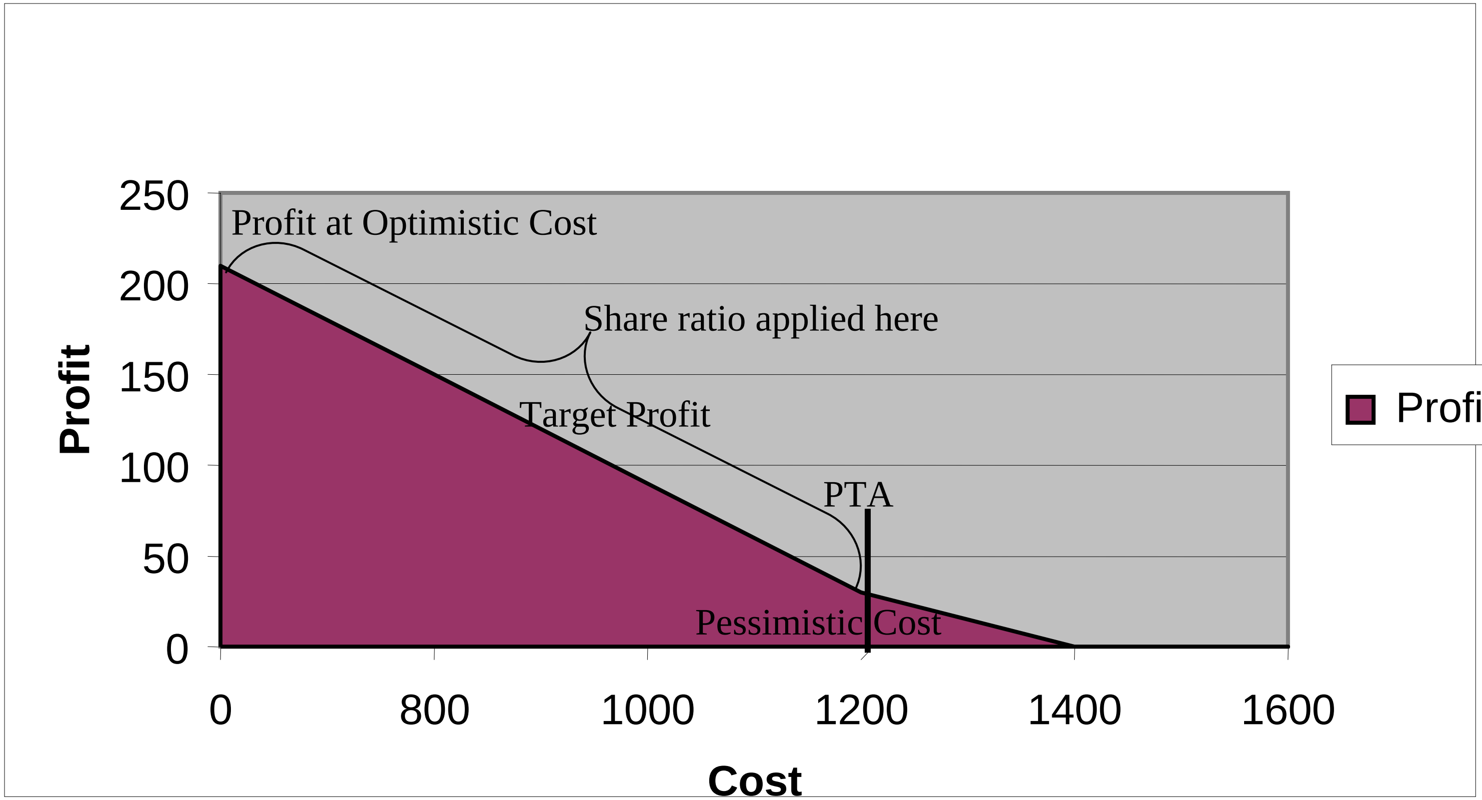
- Contract elements:
  - Initial target cost
  - Initial target profit
  - Initial profit adjustment formula w/ceiling and floor on firm target profit
  - Production point at which initial sharing formula will be applied
- Use when cost or pricing data insufficient to determine realistic firm target cost prior to award (but will be available sometime after award)

•FPIS has no maximum profit! So long as Contractor is under ceiling price, she/he will make $

•FPIS converts to FFP at PTA

Additional Steps for FPIF/S:

- Set ceiling price @ pessimistic cost estimate
- Analyze Point of Total Assumption (PTA)
  - PTA = the cost at which the contractor assumes total responsibility for each $ of contract cost; each additional $ of cost reduces profit



FPIF vs. FPIS

FPIF	FPIS
• Initial Negotiations: – Target cost – Target profit – Ceiling Price – Profit Adjustment formula • Contract Performed • Incurred Costs submitted by Contractor • Audited/Evaluated • Second Negotiation: – Establish total final price – Apply adjustment formula	• Initial Negotiations: – Target cost – Target profit – Ceiling Price – Initial sharing formula with ceiling and floor on firm target profit – Production point at which the initial sharing formula will be applied • Contract Performed • Incurred Costs submitted by Contractor • Audited/Evaluated • Second Negotiation: – Establish FFP – Increase/Decrease profit based on % difference b/w total initial target cost and total firm target cost – If total firm target cost > total initial target cost => KTR shares loss – If total firm target cost < total initial target cost => KTR shares in savings, thus achieving higher profit

Award Fee Contracts

- An incentive contract w/out:
  - Predetermined targets
  - Profit/fee adjustment formulas
- Subjective rather than Objective evaluation
- Two types:
  - Cost-Plus Award Fee (CPAF)
  - Fixed-Priced Award Fee (FPAF)
- When to use:
  - Not possible to devise predetermined targets
  - Contractor performance cannot be measured objectively
  - Incentive likely to motivate Contractor performance
  - Cost of admin < benefits of award fee approach
    - Award Fee Plan
    - Fee Determining Official
    - Performance Evaluation Board
    - Performance Monitor
    - Performance Evaluation Criteria
- Contractor may earn all, part, or none of award fee pool

Cost-Plus Award Fee (CPAF)

- Contract elements:
  - Base fee
    - Usually 2-3%, but may be 0%
    - Fixed at contract award
  - Award Fee
    - Based on subjective determination by Gov't
    - Unilateral determination not subject to disputes clause*
  - Maximum Fee
  - Award Fee determination process
    - Performance Criteria: part of contract which explains:
      - aspects of work to be evaluated
      - relative importance of each area
      - total amount of fee which can be earned for each period
    - Award Fee Determination Plan
      - Not part of contract but usually provided to Contractor

Neither the base fee nor the award fee are developed using a structured approach

Cost-Plus Award Fee (CPAF) (cont'd)

- Requirements:
  - Adequate Accounting System
  - Must be a negotiated procurement
  - Must have adequate Gov't surveillance
- Application:
  - Not practicable/possible to objectively measure performance;
  - Judgment can be reasonably applied to ensure fairness
  - Good for LOE contracts for which achievement must be subjectively measured
  - Good for Service contracts

Fixed-Priced Award Fee (FPAF)

- Contract elements:
  - FFP
  - Award Fee (no base fee)
  - Award Fee determination process
    - Performance Criteria: part of contract which explains:
      - aspects of work to be evaluated
      - relative importance of each area
      - total amount of fee which can be earned for each period
    - Award Fee Determination Plan
      - Not part of contract but usually provided to Contractor
- Application:
  - When performance cannot be objectively measured
  - Judgmental standards can be fairly applied
  - Potential fee is large enough to motivate Contractor

Fixed-Priced w/EPA

- Contract elements:
  - Firm-Fixed Price
  - EPA clause
- 5 steps for establishing EPA:
  - identify indices to use
  - identify base period and times or events that trigger adjustment
  - identify the % of base price subject to adjustment
  - identify any limits on adjustment (tolerance bands)
  - calculate adjustment price

Time & Materials Contracts

- Provides for acquisition of supplies & services on the basis of:
  - Labor hours at specified fixed hourly rates (including direct labor, labor OH, G&A, and profit)
  - Material dollars at cost (including material handling, but no profit)
- Contract elements:
  - Direct labor hours @ fixed hourly rates
  - Direct materials @ cost
  - Ceiling price

Time & Materials (cont'd)

- Application:
  - When you know the types of labor required (i.e. labor categories) but not the amount of work required to be performed
  - Great for <u>repair</u>: contractors are not incentivized to replace any equipment unnecessarily because they do not earn profit on new material
  - May be bad for old equipment that should have been replaced rather than repaired
  - Great when its not possible to estimate the duration of work
- <u>Ceiling price</u>: Gov't has option to halt work at the point where ceiling price is reached and Gov't is not obligated to pay any amount in excess of ceiling price unless agreed to in writing

Requirements Contracts

- Two basic types:
  - BOAs
  - IDIQs
- Both can be of any contract type:
  - Fixed-priced
  - Cost-reimbursable

Basic Ordering Agreements (BOAs)

- Basic Ordering Agreement (BOA):
  - Not a contract by itself
  - No pricing information
  - Basic BOA includes:
    - Clauses that apply to future contracts (orders)
    - Description of supplies/services to be provided
    - Methods of pricing, issuing, and delivering future orders
  - Each order under a BOA = contract by itself
    - Contains pricing information
- Application:
  - Recurring requirement anticipated, but…
  - Cannot accurately predict precise quantity
  - Gov't <u>not liable to place any orders at all</u>!
  - But, Gov't is liable to buy exclusively from this supplier

Indefinite Delivery/Indefinite Quantity

- Indefinite Delivery/Indefinite Quantity (IDIQ) Contracts:
  - Contract by itself
  - Each order under an IDIQ are not contracts by themselves
  - Do not require negotiating except in areas not covered under IDIQ
- Contract elements:
  - Minimum quantity (Gov’t obligated)
  - Maximum quantity
- Application:
  - Recurring need anticipated, but…
  - Inability to estimate the amount of recurring need beyond stated minimum quantity

Regulations & Oversight

- Use of federal money comes with strings
- Order of precedence:
  - Federal Acquisition Regulations (FAR)
  - Defense Federal Acquisition Regulations Supplement (DFARS)
  - Agency peculiar acquisition guidelines and regulations (e.g. NAVAIR Instructions)
  - Cost Accounting Standards (CAS)
  - Generally Accepted Accounting Standards (GAAP)
- Other rules & guidelines:
  - FMR
    - Bona Fide Needs Rule: cannot buy in advance of need

General Roles & Responsibilities

- Defense Contract Audit Agency (DCAA):
  - Audits Contractor’s records and reviews the following:
    - Cost proposals
    - Costs incurred
    - Billing rates for direct/indirect cost pools
    - Application & compliance w/CAS
    - Serves in advisory role to Contracting Officer
- Defense Logistics Agency (DLA) and the Defense Contract Management Agency (DCMA):
  - Provides oversight, contract administration, quality inspection, and acceptance services
  - CAS Disclosure reviews (for adequacy and compliance)
  - DACOs evaluate and negotiate FPRAs and FPRRs
- Systems Commands:
  - Responsible for procuring products and services for the war fighter
- Contractors:
  - Develop and manufacture products and services

Cost or Pricing Data

- Definition:
  - All facts that, as of the date of the price agreement or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price, that prudent buyers and sellers <u>would reasonably expect</u> to affect price negotiations <u>significantly</u>.
- Require certification by Contractor procurement officials as:
  - Current
  - Accurate
  - Complete

Allowable Cost

- 5 Factors of Allowable cost (FAR 31.201-2):
  - Reasonable: does the cost meet the reasonable person standard and would it therefore be incurred during the normal course of business by a prudent business person?
  - Allocable: can the cost be traced to a final cost objective?
  - Comply with CAS: is the cost permitted under the Cost Accounting Standards
  - Comply w/Contract: is the cost permissible in accordance with the terms of the contract?
  - Comply w/FAR & DFARS: is the cost an allowable cost in accordance with FAR, DFARS, and agency peculiar guidelines?
    - FAR Part 31—Contract Cost Principles & Procedures
    - DFARS Part 231

Why do cost estimators care? Because unallowable costs must be segregated from allowable costs within an accounting system and excluded from any billing, claim, or proposal applicable to a Gov't contract. Basically, these unallowable costs eat into a Contractor's profitability.

Cost Accounting Standards (CAS)

- Public Law 100-679 (41 U.S.C 422) requires certain Contractors to:
  - 1.) comply with CAS
  - 2.) disclose in writing their cost accounting practices (CAS Disclosure Statement)
  - 3.) consistently follow their own cost accounting practices
- What is CAS?
  - 20 principles that Contractors must follow if they have contracts covered by CAS
- When a contract is CAS covered, CAS takes precedence over all other forms of accounting guidance in determining cost allowability

Types of CAS Coverage

- Full
  - All CAS principles apply
- Modified
  - Only CAS 401, 402, 405, and 406 apply
- Roles & Responsibilities:
  - Who determines if CAS applies?
    - Procuring Contracting Officer (Systems Command)
  - Who determines if an adequate CAS Disclosure Statement is on file prior to contract award?
    - Administrative Contracting Officer (DCMA)
  - Who monitors compliance with CAS Disclosure Stmt?
    - DCAA

Principles of CAS

- CAS 401—Estimating, Accumulating, & Reporting Costs;
- CAS 402—Allocating Costs Incurred for Same Purpose
- CAS 403—Allocating Home Office Expenses to Segments
- CAS 404—Capitalization of Tangible Assets
- CAS 405—Accounting for Unallowable Costs
- CAS 406—Accounting Period
- CAS 407—Standard Costs
- CAS 408—Compensated Personal Absence
- CAS 409—Depreciation of Tangible Capital Assets
- CAS 410—Allocation of G&A Expense
- CAS 411—Acquisition Costs of Materials
- CAS 412—Pension Costs
- CAS 413—Adjustment and Allocation of Pension Cost
- CAS 414—Cost of Money as an Allowable Element of the Cost of Facilities Capital
- CAS 415—Accounting for the Cost of Deferred Compensation
- CAS 416—Accounting for Insurance Costs
- CAS 417—Cost of Money as an Element of the Cost of Capital Assets under Construction
- CAS 418—Allocation of Direct and Indirect Costs
- CAS 419—(Reserved)
- CAS 420—Accounting for Independent Research and Development (IR&D) Costs and Bid and Proposal (B&P) Costs

Determining if CAS applies:

Is contract amount >= $25M

YES

Did Business Unit receive $25M or more in net CAS covered awards during preceding cost accounting period, of which at least one award >= $1M

Full CAS Coverage

NO

OR

Did Business Unit receive a covered contract <$25M AND Business Unit received less than $25M in net CAS covered awards in immediately preceding cost accounting period?

Modified CAS Coverage

Did Business Unit receive > $25M in net CAS-covered awards in immediately preceding period but no single award > $1M?

Modified CAS Coverage

Exemptions from CAS

- All of the following are criteria for exempting a contract/subcontract from CAS coverage:
  - Contracts awarded under sealed bidding
  - Contracts or subcontracts <= $500K
  - Contracts/subcontracts with small business
  - Commercial items
  - Contract/subcontract price set by law or reg
  - FFP contract/subcontract and awarded w/out cost or pricing data
  - Foreign contractor performance**
    - Be aware that there are a lot of twists here.

Contract Financing

- General types of financing:
  - Progress Payments
  - Performance-based Payments
  - Loan Guarantees (which we will not cover)

Progress Payments

- Two types:
  - Customary
  - Unusual
- Customary Progress Payments
  - Large Businesses = 80%
  - Small Businesses = 85%
- Unusual Progress Payments
  - When pre-delivery expenditures are large relative to contract price, contractor’s working capital, or credit
  - Contractor must fully document the need to supplement private financing
  - Approved by the Head of the Contracting Activity

Progress Payments (cont’d)

- To qualify for Progress Payments, ACO must have experience w/Contractor or recent audit review w/in last 12 months to be:
  - Reliable, competent, capable of satisfactory performance
  - Possess an adequate accounting system and controls
  - Be in sound financial condition

Performance-based Payments

- Application:
  - When Contracting Officer and Contractor can agree on performance-based payment terms;
  - Contract type must be fixed-price
  - No other methods of contract financing apply
- Bases for Performance-based Payments:
  - Measured by objective, quantifiable methods
  - Accomplishment of defined events
  - Other quantifiable measures of results
  - Examples:
    - Milestones or events (cumulative or severable)
    - Delivery of items/performance of tasks
    - <u>Not</u> on signing of contract awards/mods

Performance-based Payments (cont’d)

- Other criteria:
  - Each payment must be stated as:
    - Either a dollar amount per event;
    - Or as a % of specifically identified price (e.g. contract price)
  - Contracting Officer must establish complete, fully defined schedule of performance criteria
  - Total Performance-based Payments:
    - Must reflect prudent contract financing
    - Must not exceed 90% of contract price (if on a whole contract basis)
    - Must not exceed 90% of delivery item price (if on a delivery item basis)