

# Estimating Systems

2024 Baker Tilly  
Business Systems  
Webinar Series

Noah Leiden, Partner

Stephen Bozarth, Manager

Jake Conway, Manager

# Today's Presenters



**Noah Leiden** is a partner in Baker Tilly's Risk Advisory practice and has over 30 years of experience in the federal contracting environment serving healthcare, professional services, information and communications, manufacturing, engineering, higher education, and non-profit organizations. Noah advises clients on a host of cost accounting and compliance-related issues associated with the Federal Acquisition Regulation (FAR) and agency supplements, Cost Accounting Standards (CAS), and contractor Business System requirements. His experience includes supporting clients with the assessment and development of accounting and other business systems for federal contracts, preparing CAS Disclosure Statements, establishing indirect rate structures, supporting cost estimating and proposal development, addressing cost allowability issues, performing internal control reviews, and preparing and supporting clients in preparation of federal audits. Prior to joining Baker Tilly, Noah worked with the Defense Contract Audit Agency, a major international public accounting firm, and major consulting firms.



**Stephen Bozarth** is a manager in Baker Tilly's Risk Advisory practice. Stephen has worked several government contracting functions and activities including purchasing, estimating, accounting, and regulatory compliance. He is well versed in estimating system requirements, best practices, and their interrelatedness to other business systems and functions. He has previously worked for a multinational government contractor and other mid-sized defense contractors having responsibility for establishing or maintaining compliant policies, practices, and controls related to government contracting best practices and selected business systems. He has prepared, supported, and administered proposals worth hundreds of millions in value for prime contractors, subcontractors, competitive solicitations, sole sourced awards, fixed price and flexibly priced contracts and anything in-between.



**Jake Conway** is a manager in Baker Tilly's Risk Advisory practice serving government contractors since 2015. He assists government contractors with a wide range of Federal Acquisition Regulation (FAR), Defense Federal Acquisition Regulation Supplement (DFARS) and Cost Accounting Standards (CAS) compliance matters including incurred cost proposal preparation and audit support, business system reviews and accounting system implementations, policy and procedure review, internal control assessments, compliance audit responses, and Service Contract Act (SCA) compliance. He has worked with clients of varying sizes across many specialties such as professional services, defense monitoring and detection systems, and manufacturing.

**ESTIMATING SYSTEMS - BUSINESS SYSTEM WEBINAR SERIES**

## Agenda

- ▶ Estimating System Background
- ▶ Fundamental System Requirements
- ▶ Government's Oversight Approach
- ▶ Special Issues in Estimating

# Estimating System Background

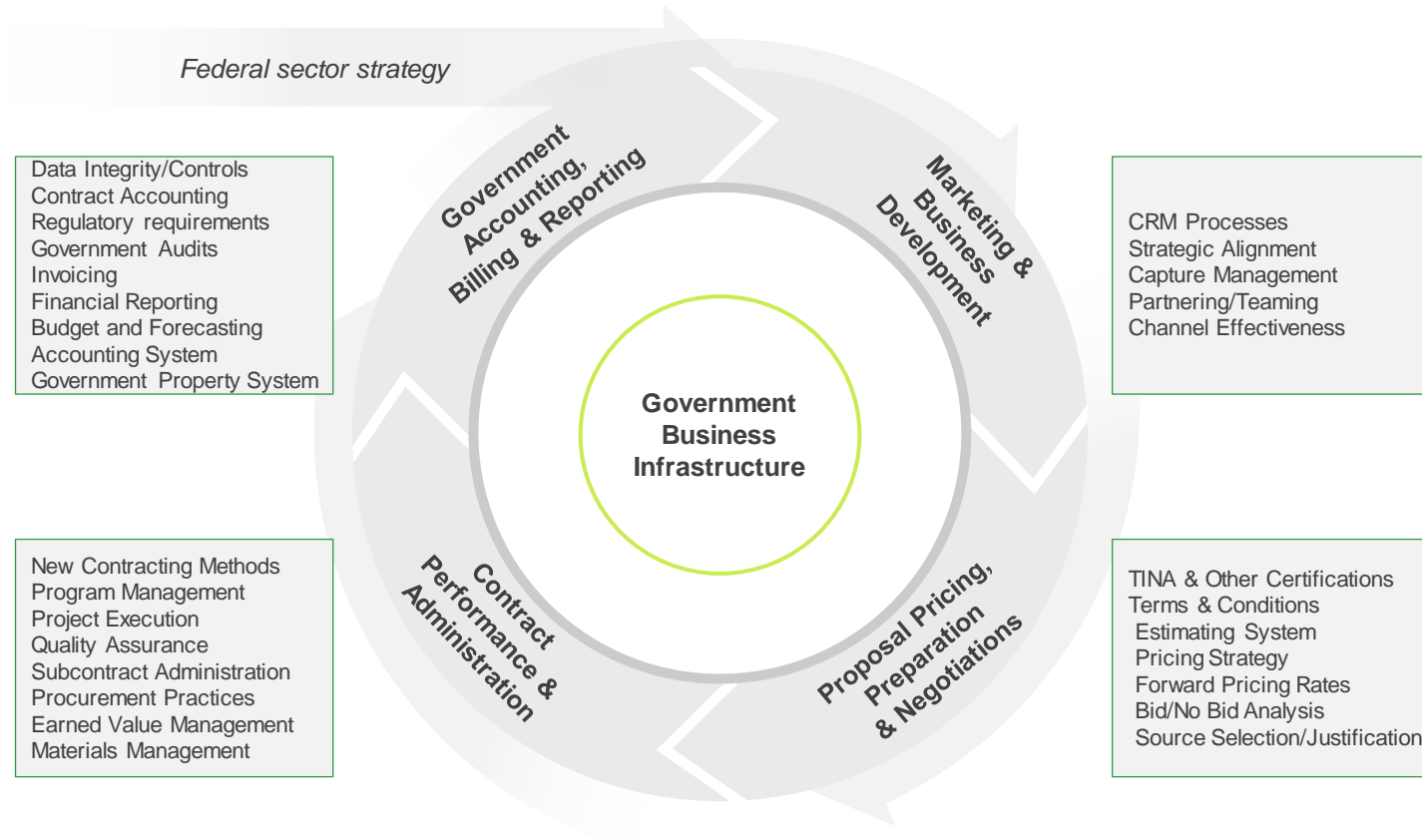
ESTIMATING SYSTEM BACKGROUND

# A Business System is Much More than IT Software



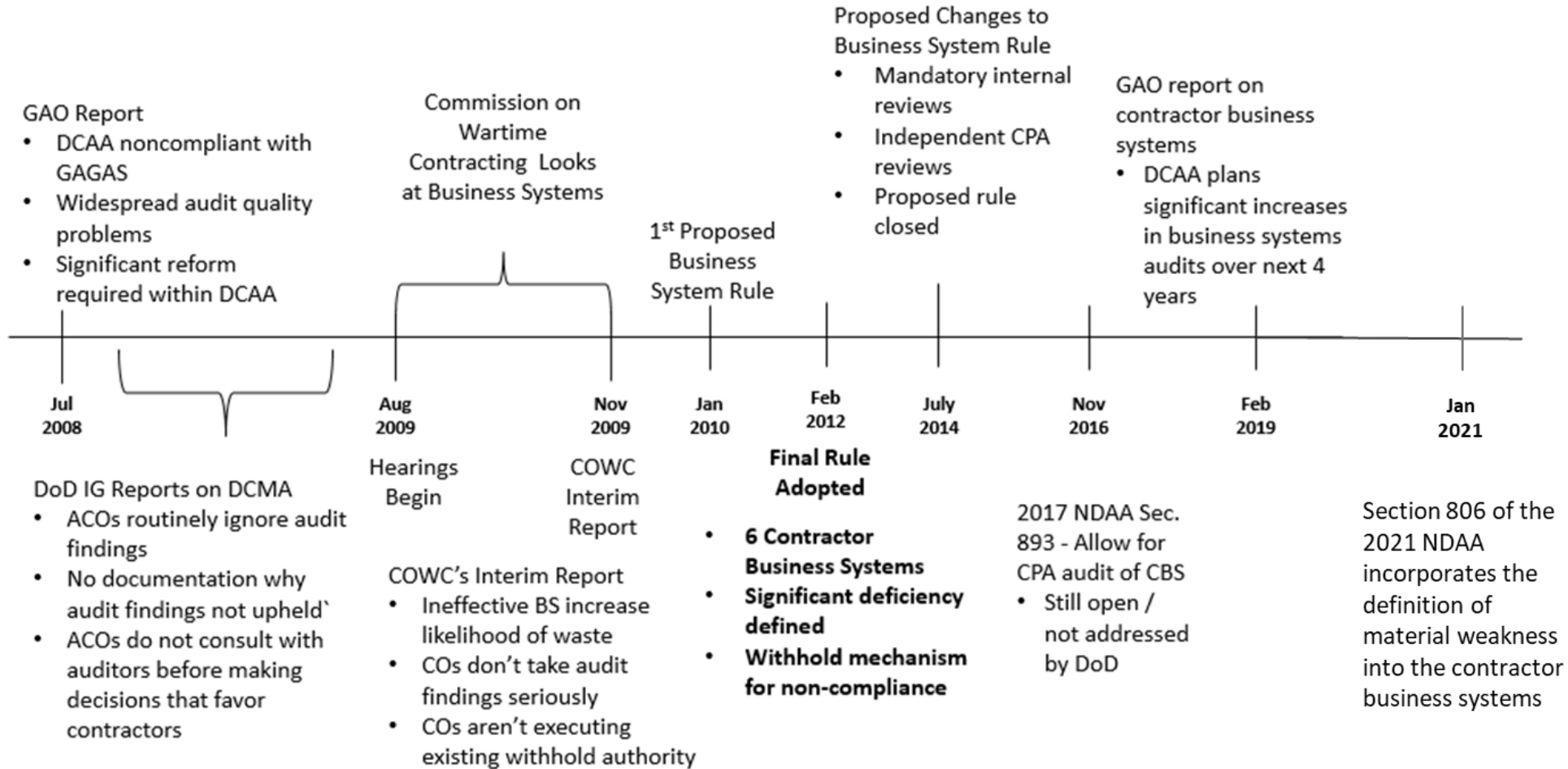
**ESTIMATING SYSTEM BACKGROUND**

# The Government Contract Life Cycle



ESTIMATING SYSTEM BACKGROUND

# A Quick History Lesson...



## ESTIMATING SYSTEM BACKGROUND

# What are Contractor Business Systems - DFARS 252.242-7005

Applies to Department of Defense (DOD) CAS-covered contracts that contain the clause above, and one of the following clauses:

- **252.215-7002, Cost Estimating System Requirements**
  - The clause is prescribed when the contract award is based on certified cost or pricing data
  - However, the system requirements and withhold authority only applies to large businesses that received DoD prime contracts and subcontracts totaling more than \$50M (sometimes \$20M) in their prior fiscal year based on certified cost or pricing data
- 252.234-7002, Earned Value Management System
- 252.242-7004, Material Management and Accounting System
- 252.242-7006, Accounting System Administration
- 252.244-7001, Contractor Purchasing System Administration
- 252.245-7003, Contractor Property Management System Administration



## ESTIMATING SYSTEM BACKGROUND

# Estimating System - DFARS 252.215-7002

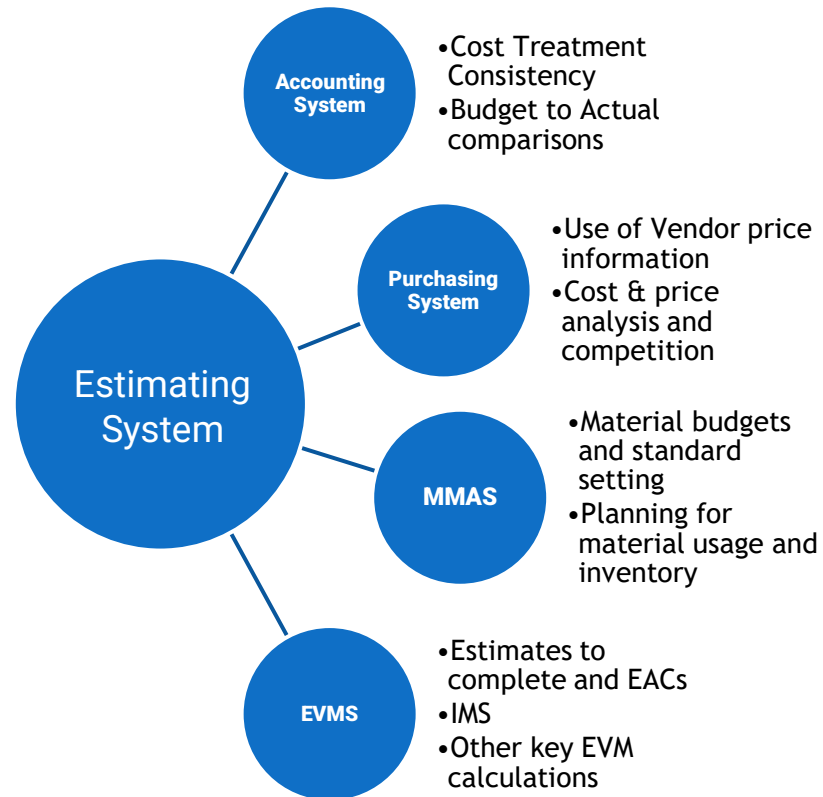
“Estimating system” means the Contractor's policies, procedures, and practices for budgeting and planning controls, and generating estimates of costs and other data included in proposals submitted to customers in the expectation of receiving contract awards

- Importance of the Estimating System
  - Determines the Company's initial price offer for a particular scope of work
  - Critical to competitiveness and profitability
  - Development of forward pricing rates
  - Performance efficiencies, estimating strategies, and presentation clarity is critical to either winning new work or successfully negotiating contract changes
  - Coordination among business processes is crucial
  - Operations
    - FP&A
  - Contracts / Subcontracts
    - Budgeting and Planning
  - Accounting
    - Procurement

**ESTIMATING SYSTEM BACKGROUND**

# Integration of Related Systems

Estimating Systems connect to other business systems - Deficiencies in one system can result in deficiencies with others



ESTIMATING SYSTEM BACKGROUND

## POLLING QUESTION #1

- ▶ What is the status of your DFARS Estimating System?
  - A. Approved
  - B. Disapproved
  - C. Not audited
  - D. Not applicable (not DOD)

# Fundamental System Requirements

## ESTIMATING SYSTEM BACKGROUND

# System Requirements of an Adequate Estimating System

- Estimating System includes the Contractor's:
  - An organizational structure,
  - Defined lines of authority, duties, and responsibilities,
  - Ensure internal controls and managerial reviews are implemented and operating effectively,
  - Established flow of work, coordination and communication methods, and
  - Adequate budgeting, planning, estimating methods, techniques, accumulation of historical costs and other analyses used to generate cost estimates.
- “Acceptable estimating system” means an estimating system that complies with the system criteria ... and provides for a system that:
  - Is maintained, reliable, and consistently applied,
  - Produces verifiable, supportable, documented, and timely cost estimates that are an acceptable basis for negotiation of fair and reasonable prices;
  - Is consistent with and integrated with the Contractor's related management systems; and
  - Is subject to applicable financial control systems.

## ESTIMATING SYSTEM BACKGROUND

# DFARS Estimating System Criteria

- i. Clear responsibility for preparation, review and approval of cost estimates and budgets
- ii. Written description of the organization and duties of the personnel responsible for preparing, reviewing, and approving cost estimates
- iii. Relevant personnel have sufficient training, experience, and guidance to perform estimating and budgeting tasks in accordance with procedures
- iv. Identify and document the sources of data and the estimating methods and rationale used in developing cost estimates and budgets
- v. Adequate supervision throughout the estimating and budgeting process
- vi. Consistent application of estimating and budgeting techniques
- vii. Provide for detection and timely correction of errors
- viii. Protect against cost duplication and omissions
- ix. Use of historical experience, including historical vendor pricing information, where appropriate

Use of appropriate analytical methods

## ESTIMATING SYSTEM BACKGROUND

# DFARS Estimating System Criteria (Cont.)

- xi. Integrate information available from other management systems
- xii. Management review, including verification of compliance with the company's estimating and budgeting policies, procedures, and practices
- xiii. Internal review of, and accountability for, the acceptability of the estimating system, including the budgetary data supporting indirect cost estimates and comparisons of projected results to actual results, and an analysis of any differences
- xiv. Procedures to update cost estimates and notify the Contracting Officer in a timely manner throughout the negotiation process
- xv. Procedures that ensure subcontract prices are reasonable based on a documented review and analysis provided with the prime proposal, when practicable
- xvi. Provide estimating and budgeting practices that consistently generate sound proposals that are compliant with the provisions of the solicitation and are
- xvii. Have an adequate system description, including policies, procedures, and estimating and budgeting practices, that comply with the Federal Acquisition information, where appropriate

## ESTIMATING SYSTEM BACKGROUND

# Common Business System Requirements/Expectations:

These may not be spelled out within each business system criteria, but it will be examined:

- Policies and Procedures
  - Defines roles & responsibilities
  - Identifies people, processes, and technology used in the business system
  - Provides guidance on compliance with company policies, contract requirements
- Training
  - Educates personnel on their job responsibilities
  - Ensures awareness of policy & procedure information
- Internal Controls
  - Provides reasonable assurance regarding the achievement of objectives relative to financial reporting, efficiency of operations, compliance with laws and regulations, government expectations
  - COSO Framework - Control activities, risk assessment, information & communication, monitoring activities, control environment
- Sound Organizational Structure
  - Ensures proper segregation of duties
  - Defines roles, responsibilities, and authority limits for personnel in the business system
- Management Oversight & Review
  - Provides management with insight into system performance and compliance
  - Reduces the risk of fraud, waste, and abuse



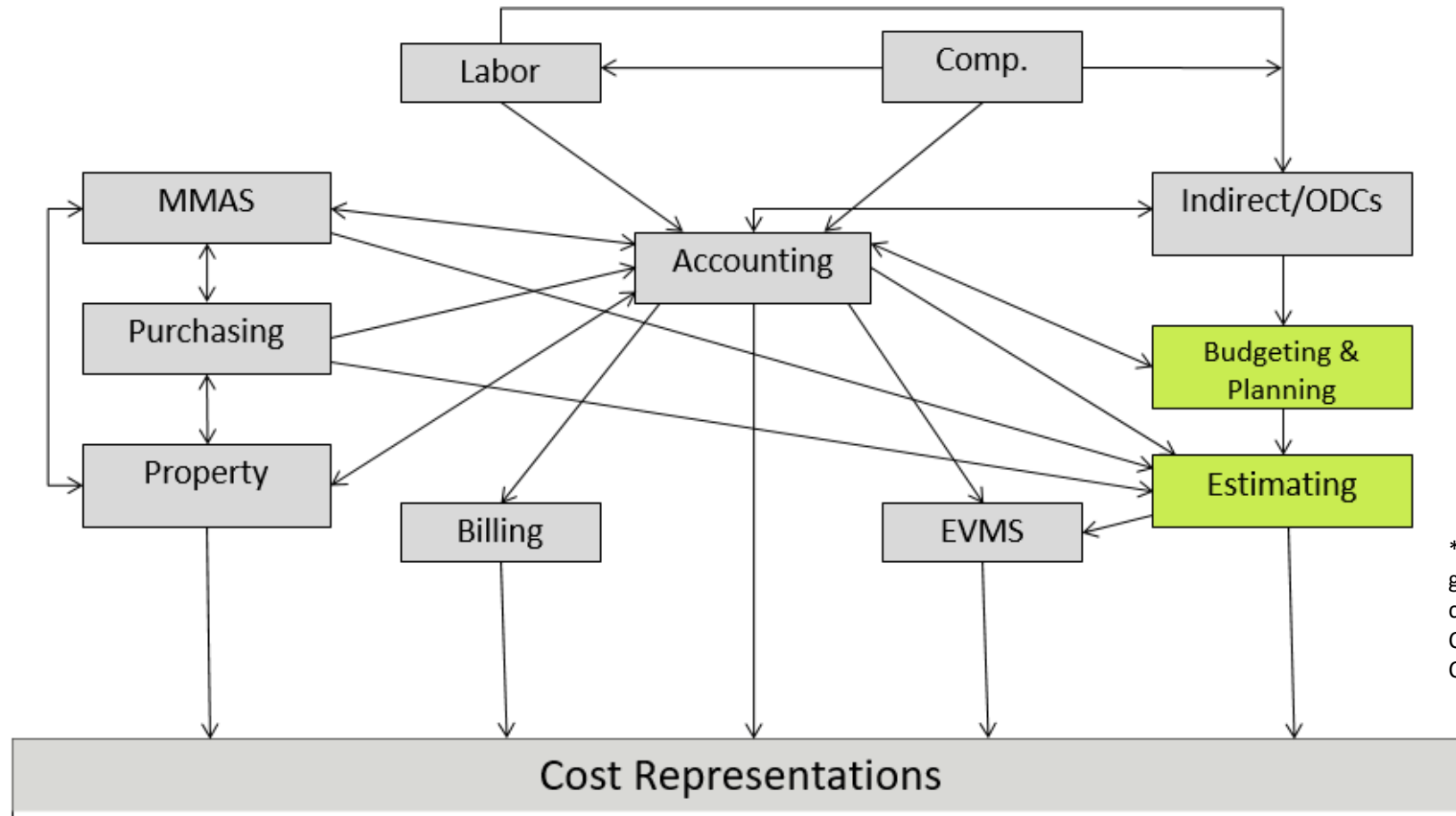
## FUNDAMENTAL SYSTEM REQUIREMENTS

# Risks of an Inadequate Estimating System

- Irritated, skeptical customer
- Weak negotiation position and/or barrier to any negotiations at all
- Potential reputational damage if failed system becomes public knowledge (this shouldn't - but can - happen)
- Potential 5% withhold on billings for DoD contracts
- Interrelated business system deficiencies (i.e. accounting, purchasing)
- Limitation on future proposal opportunities and awards
- Overly prescriptive government remediation requirements and continuous burdensome government surveillance

FUNDAMENTAL SYSTEM REQUIREMENTS

# Estimating is continually impacted by other systems



\*Original graphic courtesy of Capitano Consulting

ESTIMATING SYSTEM BACKGROUND

## POLLING QUESTION #2

- ▶ How often does your estimating system get audited?
  - A. We haven't been audited
  - B. Less often than every three years
  - C. Every three years
  - D. More often than every three years

# Government's Oversight Approach

GOVERNMENT'S OVERSIGHT APPROACH

## Evaluating an Estimating System

- Audited by the Defense Contract Audit Agency (DCAA)
  - Coordination and final determination made by Contracting Officer
- Audits should be scheduled every 3 years, unless past experience and current audit risk support a more or less frequent cycle
- DCMA may perform an out of cycle review if they identify problems during FPRP reviews
- Performed to assess compliance with DFARS Part 215.407-5 and DFARS contract clause 252.215-7002
  - Contractors are reviewed against:
    - DFARS criteria,
    - Other applicable regulations (FAR and CAS),
    - DCAA established audit programs, and
    - The Company's policies and procedures (including it's CASB Disclosure Statement)

GOVERNMENT'S OVERSIGHT APPROACH

## More Business System Audits are Coming

- Government conducts oversight of contractor's estimating system through
  - Estimating System Audits (DCAA)
  - Proposal Audits (DCAA), including REAs and claims
  - Forward Pricing Rate Proposal Audits (DCAA)
  - Post-Award Audits/Defective Pricing Audits/TIN Audits (DCAA)
- Changes in DCAA audit approach (e.g., System Description Narrative Template)
- Risk-based Approach: system-based risk factors (e.g., cost-reimbursable contracts, ERP system changes, contractor size, time between system audits)

GOVERNMENT'S OVERSIGHT APPROACH

## DCAA Business System Audit Results (GFY 2022)

Business System	Completed Audits*	Common Deficiencies and Related Criteria
Accounting	46	(1) Control Environment/Framework/Structure (12) Unallowable Cost (18) CAS/GAAP
Estimating	49	(4) Document Source and Method for BOE (9) Historical Experience (15) Subcontract Cost or Price Analysis
Material Management and Accounting System	21	(1) System Description (2) 95 Percent Master Production Schedule Accuracy (4) Audit Trail

\*Reflects completed audits for Major Contractors

GOVERNMENT'S OVERSIGHT APPROACH

# Business System Audit Results

DCAA Audit Metrics for FY 2017 through FY 2022 (\$b)

		FY17	FY18	FY19	FY20	FY21	FY22
FPR	Audit Reports	761	766	710	719	632	486
	Audited Dollars	51.4	58.7	118.9	185.3	63.0	48.4
	Sustention Rate	66.2%	61.6%	62.5%	59.6%	61.3%	56.2%
Incurred Cost	Audit Reports	1527	651	1117	710	594	522
	Audited Dollars	226.1	349	239.7	145.8	164.9	186.1
	Sustention Rate	28.6%	24.1%	29.5%	30.2%	30.8%	26.2%
Claims & Terminations	Audit Reports	936	2,027	822	964	894	902
	Audited Dollars	3.4	1.4	6.5	3.3	4.8	2.8
	Sustention Rate	41.8%	68.3%	58.3%	76.8%	46.6%	45.4%
CAS, TINA B/S	Audit Reports	357	273	299	437	592	650
	Audited Dollars	0.9	0.1	0.1	31.0	27.0	25.0
	Sustention Rate	43.4%	45.2%	29.1%	64.9%	52.9%	28.3%

\*\* Source: DCAA FY17-FY22 Reports to Congress



GOVERNMENT'S OVERSIGHT APPROACH

# DCAA Engagement Process and Expectations

## Audit Program 24010 - Estimating System Audit


- Audit Criteria - FAR, CAS, DFARS
- Audit Notification
- Entrance Conference
- Risk Assessment
- Fieldwork and Testing
- Exit Conference
- Draft Report
- Final Report

Compliance Risks		
Business Behaviors	Policies and Procedures	
	<ul style="list-style-type: none"> <li>· Policies and procedures in place</li> <li>· Behaviors are compliant</li> </ul> <p style="text-align: center;">✓</p>	<ul style="list-style-type: none"> <li>· Policies and procedures are not in place</li> <li>· Behaviors are compliant</li> </ul> <p style="text-align: center;">✗</p>
	<ul style="list-style-type: none"> <li>· Policies and procedures in place</li> <li>· Behaviors are non-compliant</li> </ul> <p style="text-align: center;">✗</p>	<ul style="list-style-type: none"> <li>· Policies and procedures are not in place</li> <li>· Behaviors are non-compliant</li> </ul> <p style="text-align: center;">✗</p>

## GOVERNMENT'S OVERSIGHT APPROACH

# The Key Deliverable → Adequate Proposals

- An adequate proposal must contain:
  - Appropriate source data
  - Sound estimating techniques
  - Good judgment with relevant support
  - Consistent approach
  - Adherence to established policies and procedures
- Common examples of deficiencies in proposal cost estimates:
  - Use of incorrect, incomplete, or noncurrent data
  - Use of inappropriate estimating techniques
  - Failure to consider or use all applicable factors
  - Improper use of an estimating technique
  - Deliberate concealment or misrepresentation of the data supporting the estimate
  - Failure to estimate in a manner consistent with the disclosed or established accounting procedures as required by CAS 401



### How to Prove it? Adequate Basis of Estimate (BOE)

Documents the thought process, approach, and rationale used to arrive at the estimate being proposed

Explains the logic, rationale method, data and calculations used to estimate the resources required to perform the work

**GOVERNMENT'S OVERSIGHT APPROACH**

## Specific Areas covered during Estimating System Audit

- Any legacy audit findings and recommendations, including any internal or external audits
- Select proposals to test as part of audit (details: price by cost element, subs, contract type, etc.)
- System descriptions, P&Ps, training, and anything related to estimating processes & internal controls

Proposal Area	Areas Addressed	Other Documents Reviewed
Direct labor rates	Basis of estimate, historical experience/trending	Payroll records, compensation surveys
Direct labor hours	Skill mix, alignment to RFP, analytical methods	Timesheet records, actual results
Interdivisional Work Orders (IWO)	Basis of cost/price, make vs. buy analysis, established IWO transferring practices	Competitive bids, historical commercial sales
Direct Material	Make vs. buy, Vendor solicitation and negotiation, Need for scrap/rework/spoilage	Bill of Materials, vendor quotes, TINA certifications
Other Direct Costs	Basis of estimate, alignment to RFP	Vendor quotes, descriptions
Indirect Expenses	Historical experience, basis of estimate, monitoring	Trend/budgetary data for “out years”
Subcontract Costs	Market research, vendor solicitation and negotiation	Cost/price analysis, Competitive quotes
Other Areas	Cost of Money (COM), Estimating using standards, Parametric estimating, Proposal revision process	

ESTIMATING SYSTEM BACKGROUND

## POLLING QUESTION #3

- ▶ How many government proposals do you submit during a fiscal year?
  - A. Less than 100
  - B. 100 - 1,000
  - C. 1,000 - 3,000
  - D. More than 3,000

## GOVERNMENT'S OVERSIGHT APPROACH

# DCAA Audit Finding Trends

### Estimating System Audits (Pricing)

- Insufficient BOE documentation, including clear explanations as to what historical experience is leveraged and why it was or was not used
- Lack of integration with procurement system (e.g., subcontractor cost & price analysis either incomplete/inadequate/undocumented)
- No periodic comparison of actual cost incurred to original estimates to improve estimating methods and techniques
- Lack of clearly defined controls and evidence of timely reviews to prevent, detect and correct errors
- Escalation rates not properly documented or supported
- Inadequate policies and procedures
- Insufficient training for personnel involved in estimating and proposal pricing

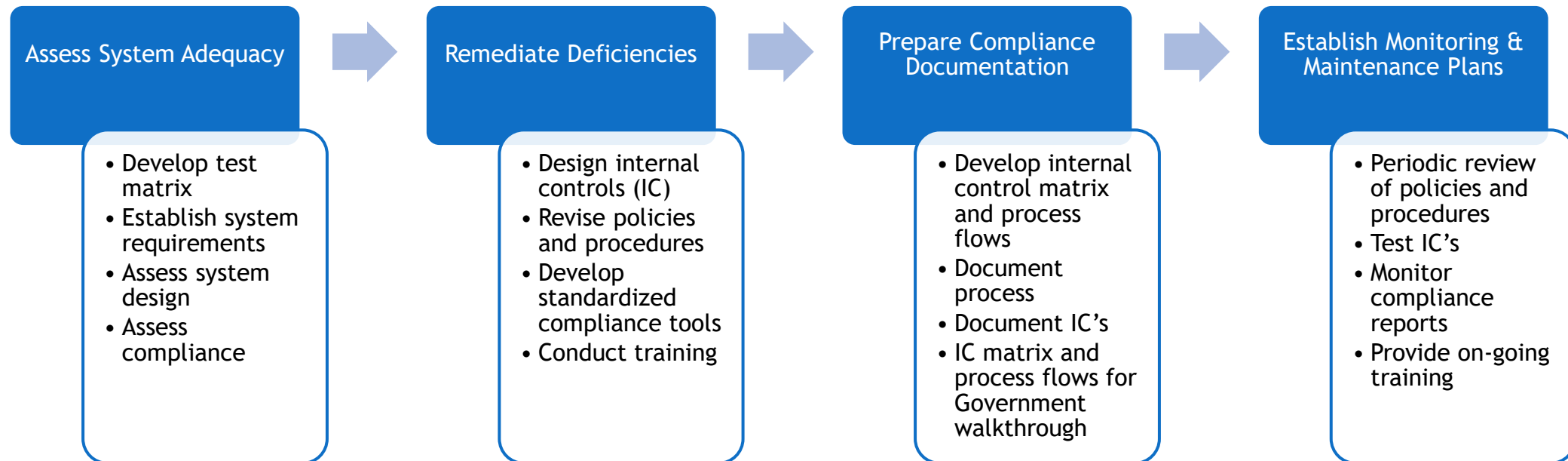
### Estimating System and FPRP Audits (Budgeting and Planning)

- No budgeting and planning for unallowable costs
- Cost allocations not traceable or comparable to actual costs
- Lack of clearly defined controls and evidence of timely reviews to prevent, detect and correct errors
- Lack of integration of strategic and long-range planning

GOVERNMENT'S OVERSIGHT APPROACH

# How to Prepare

Internally assess the adequacy of your own business systems



GOVERNMENT'S OVERSIGHT APPROACH

## How to Prepare - More Strategies for Success

- Understand the regulatory environment
- Understand your risk profile
- Be proactive and prepared
- Perform self-assessments - enterprise risks should be known and understood
- Prepare sound pricing submissions
- Build Relationships - Ideally before any issues arise
- Engage at critical points during the audit
- Over-communicate - findings and issues should not be surprises
- Highlight how your control environment protects the government interests - make it easy for the government to conclude you are a well-managed, responsible contractor

ESTIMATING SYSTEM BACKGROUND

## POLLING QUESTION #4

- ▶ What is your biggest challenge when dealing with DCAA system audits?
  - A. Scope Creep
  - B. Lack of communication
  - C. Incorrect findings/conclusions
  - D. None of the above



# Special Issues in Estimating

SPECIAL ISSUES IN ESTIMATING

## Unique Aspects to Estimating Compliance

- Gov't conducts oversight of contractor's estimating system through
  - Estimating System Audits (DCAA)
  - Proposal Audits (DCAA or DCMA), including REAs and claims
  - Forward Pricing Rate Proposal Audits (DCAA)
  - Defective Pricing Audits/TINA (DCAA)
- Additional avenues for estimating oversight
  - Cost Monitoring Reviews (DCMA)
  - Incurred Cost Proposal Audits
  - Cost Accounting Standards Audits
  - Disclosure Statement Reviews
- Potential risks of Estimating non-compliance include:
  - Disapproval of system
  - Withholds of payments
  - Suspension/disapproval of costs
  - Fraud referral
  - Defective pricing referral

SPECIAL ISSUES IN ESTIMATING

## Impacts of FPRP Audits to Estimating System Audits

- Forward Pricing Rate Proposal Audits - Different audit scopes, but same underlying issues
  - Example - Quantitative error evidence of lacking system controls and therefore a significant deficiency or material weakness
  - BUT don't let DCAA immediately conflate one with the other! The auditor should consider:
    - Nature and frequency of the issue
    - Root cause of the issue
    - Impact of the issue on other system processes or areas
    - The effect of other compensating controls
    - Subsequent corrective actions and/or remediation
    - Materiality
  - DCAA FPRP Audit Program also includes:
    - Reconcile contractor pool, base, and rate projections with budgetary data or other internal reports (operating budgets, sales forecasts, programs budgets, long range plans, etc.)
    - Forward Pricing Rates, and associated disclosed supporting basis of estimates and cost or pricing data are covered by Certificates of Current Cost or Pricing Data

## SPECIAL ISSUES IN ESTIMATING

# Truthful Cost or Pricing Data (formerly Truth in Negotiations Act)

- Cost or pricing data
  - Cost or pricing data are factual, not judgmental; and are verifiable
  - While they do not indicate the accuracy of the prospective contractor's judgment about estimated future costs or projections, they do include the data forming the basis for that judgment
  - All the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred. Includes
    - Information on changes in production methods and in production or purchasing volume
    - Data supporting projections of business prospects and objectives and related operations costs
    - Estimated resources to attain business goals
    - Information on management decisions that could have a significant bearing on costs

“By submitting this proposal, we grant the Contracting Officer and authorized representative(s) the right to examine those records, which include books, documents, accounting procedures and practices, and other data, regardless of type and form or whether such supporting information is specifically referenced or included in the proposal as the basis for each estimate, that will permit an adequate evaluation of the proposed rates and factors.”

## SPECIAL ISSUES IN ESTIMATING

# Key Takeaways

- Estimating system issues are not isolated to an estimating business system audit
  - Significant overlap between other business systems and other types of DCAA audits
- Demonstrate ability to meet fundamental system requirements in proposal population, with sufficient policies, procedures, processes, and internal controls to support their development
- DCAA will continue to perform more and more estimating system audits in the future
- Advance audit preparation is key!

## Connect with us



**Noah Leiden**

Partner

+1 (703) 923 - 8321

[noah.leiden@bakertilly.com](mailto:noah.leiden@bakertilly.com)



**Stephen Bozarth**

Manager

+1 (720) 214 - 6338

[stephen.bozarth@bakertilly.com](mailto:stephen.bozarth@bakertilly.com)



**Jake Conway**

Manager

+1 (703) 923 - 8333

[jacob.conway@bakertilly.com](mailto:jacob.conway@bakertilly.com)