



Footprints in the Sand: A Conversational Approach to Basis of Estimate (BOE)

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to the

*ICEAA 2016 PROFESSIONAL
DEVELOPMENT AND
TRAINING WORKSHOP*

AGENDA

- ❖ Impression Management
- ❖ Basis of Estimate
- ❖ Estimating Systems Review

Impression Management

- ❖ Impression Management:
 - ❖ Impression: “an effect, feeling, or image retained as a consequence of experience; a vague notion, remembrance or belief”
 - ❖ Management: “the act, manner or practice of managing or controlling”

CONTROLLING BELIEF

Impression Management

- ❖ Cost estimating/cost proposal preparation is an exercise in Impression Management
 - ❖ If the evaluator/reviewer begins to find areas of agreement, he/she will tend to look for (and find) more reasons to like the estimate or proposal
 - ❖ If the evaluator/reviewer begins to find lack of substantiation, difficulty in tracing numbers, math errors, etc., he/she will tend to look for (and find) more reasons to criticize your product

YOU NEVER GET A SECOND CHANCE TO MAKE A FIRST IMPRESSION!

Impression Management

- ❖ Evaluators are human beings, complete with likes, dislikes, biases and foibles
 - ❖ They will tend to seek reinforcement of their first opinion of your estimate or proposal
- ❖ As an offeror, you need to **proactively** manage the impression your estimate or proposal creates

Impression Management

- ❖ Consequently, I suggest you “talk” to the evaluator or reviewer as if he/she were in the room with you
 - ❖ Use plain language
 - ❖ **“eschew obfuscation”**
 - ❖ Be positive in tone; tell your story
 - ❖ **“here’s what I did and why I did it”**
- ❖ Make the reviewer or evaluator “believe” that what you did was logical and “reasonable”

OBSCURE PROPOSAL LANGUAGE

- ❖ It has long been known.....**we couldn't find a reputable reference**
- ❖ A definite trend is evident.....**these data are practically meaningless**
- ❖ In our experience.....**once, that we know of**
- ❖ In case after case.....**twice**
- ❖ In a series of cases.....**OK, three times**
- ❖ It is generally believed.....**one or two others many also think**

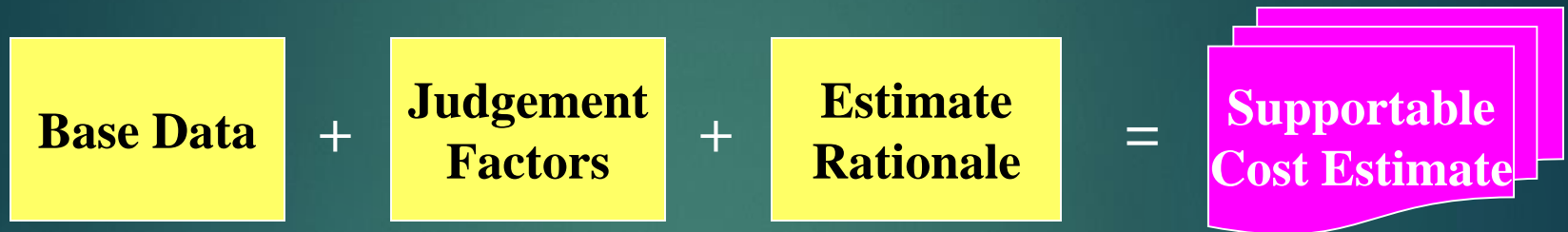
OBSCURE PROPOSAL LANGUAGE

- ❖ According to statistical analysis.....**rumor has it**
- ❖ After a careful analysis of obtainable data.....**we flat-out guessed**
- ❖ Typical results are shown.....**this was the prettiest graph of the lot**
- ❖ After additional analysis by our teammates.....**they don't have a clue either!**

Impression Management

- ❖ You can never hope to convince an evaluator or reviewer that what you did was “correct”
 - ❖ The concept of correctness has no relevance to the cost community
- ❖ You can only hope to demonstrate that what you did was reasonable
 - ❖ **“having sound judgement”**

Basis of Estimate



Four key questions must be answered:

1. What is the base data that was used?
2. Why is the base data relevant?
3. What adjustments were made to the base data?
4. Why are the adjustments appropriate?

BASE DATA

- ❖ Must be quantitative, e.g.:
 - ❖ Hours
 - ❖ Dollars
 - ❖ Appropriate metric
- ❖ Must be verifiable
 - ❖ Consistent, accurate, traceable
- ❖ Must be relevant
 - ❖ How is the base data related to the current estimate?

EXAMPLES OF BASE DATA

- ❖ Historical Data
 - ❖ Hours for a completed task or task in progress
 - ❖ Previous material or subcontract costs
 - ❖ Departmental records, logs, statistics
 - ❖ Learning curve experience
- ❖ Current Factual Experience
 - ❖ Purchase orders and subcontracts
 - ❖ Vendor quotes/proposals
 - ❖ Catalog prices
 - ❖ Labor rates and factors

USE OF JUDGEMENT

- ❖ All of estimating is a judgement!
- ❖ There is always some basis for the judgements made
 - ❖ Often, the basis for those judgements is not communicated to others
- ❖ **Unsupported judgements** are what raise doubts in the eye of the evaluator or reviewer
- ❖ “Red Flag” phrases:
 - ❖ “This represents our best engineering estimate”
 - ❖ “It’s based on similar experience”
 - ❖ “We followed accepted standards”
 - ❖ “It’s based on the estimator’s judgement”

JUDGEMENT FACTORS

- ❖ It is the judgement of the estimator that an increase or decrease to the base data is required
- ❖ Adjustments made to the base data for:
 - ❖ Programmatic differences
 - ❖ Quantity differences
 - ❖ Inflation
 - ❖ Other changes

RATIONALE

- ❖ Explains the estimate: **footprints in the sand**
- ❖ Justifies both the starting point and the quantitative judgements that have been made
- ❖ Provides confidence that the estimate is “reasonable” – not the same as “correct”
- ❖ Rationale is not merely repeating the task description
 - ❖ *“engineering services are required to support development of system definition packages; consequently, this estimate includes 600 hours of engineering labor for those services”*

ESTIMATING RATIONALE

- ❖ Estimating rationale is an explanation of:
 - ❖ The applicability of the base data
 - ❖ What makes it relevant to the current estimate?
 - ❖ What degree of relevance?
 - ❖ The logic behind the adjustments made
 - ❖ Why are the increases/decreases to the base data needed?
 - ❖ Why is the magnitude of the adjustments made logical?

INADEQUATE RATIONALE

“This effort is similar to that covered under Purchase Order No. 95-18, which totaled 11,358 hours. The level of effort required for this task is approximately 70 percent of that for the referenced P.O.”

$$11,385 \text{ hrs} \times 0.7 = 7,990 \text{ hours}$$

WHY INADEQUATE?

- ❖ Why is this effort similar to P.O. 95-18?
or
- ❖ What makes P.O. 95-18 relevant to this effort?
- ❖ Why 70 percent?
 - ❖ Why not 50% or 90% or anything else?
- ❖ Math calculation is incorrect
 - ❖ $11,385 \text{ hrs} \times 0.7 = \mathbf{7,951 \text{ hrs!}}$

ESTIMATING SYSTEMS REVIEW

- ❖ According to DFARS 215.407-5:
 - ❖ All contractors must have estimating systems which consistently produce “well supported proposals”
- ❖ The Government periodically reviews estimating systems for adequacy
 - ❖ A failing review triggers potential rejection of future proposals and, ultimately, **loss of business**

ESTIMATING SYSTEMS REVIEW

- ❖ An adequate estimating system:
 - ❖ Uses appropriate analytical methods
 - ❖ Updates estimates in a timely manner
 - ❖ **Uses historical experience**
 - ❖ **Identifies data sources, methods and rationale**
 - ❖ Protects against duplications and errors
 - ❖ Provides for consistent application

ESTIMATING SYSTEMS REVIEW

- ❖ Defective systems are characterized by:
 - ❖ Lack of written policies and procedures
 - ❖ Failure to analyze material and subcontractor costs
 - ❖ Recurrent defective pricing
 - ❖ **Failure to use historical data**
 - ❖ **Excessive reliance on personal judgement**
 - ❖ ***"It requires 20 hours because Bob said so"***

THE CHALLENGE

- ❖ Estimating is a data-driven process
- ❖ Evaluators/Reviewers cannot attest to the **reasonableness** of an estimate if there is excessive reliance on **personal judgement**, combined with a lack of substantiation via the use of **relevant historical experience**
- ❖ What types of data that you needed were not available for your last estimate, and how do you make those data available from today forward?

CARDINAL RULES

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***Never Make an
Evaluator Work!***

and

***Never Make an
Evaluator Think!***

FOR FURTHER INFORMATION

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If you need help with preparing or reviewing BOEs, or just want to learn more, contact:

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