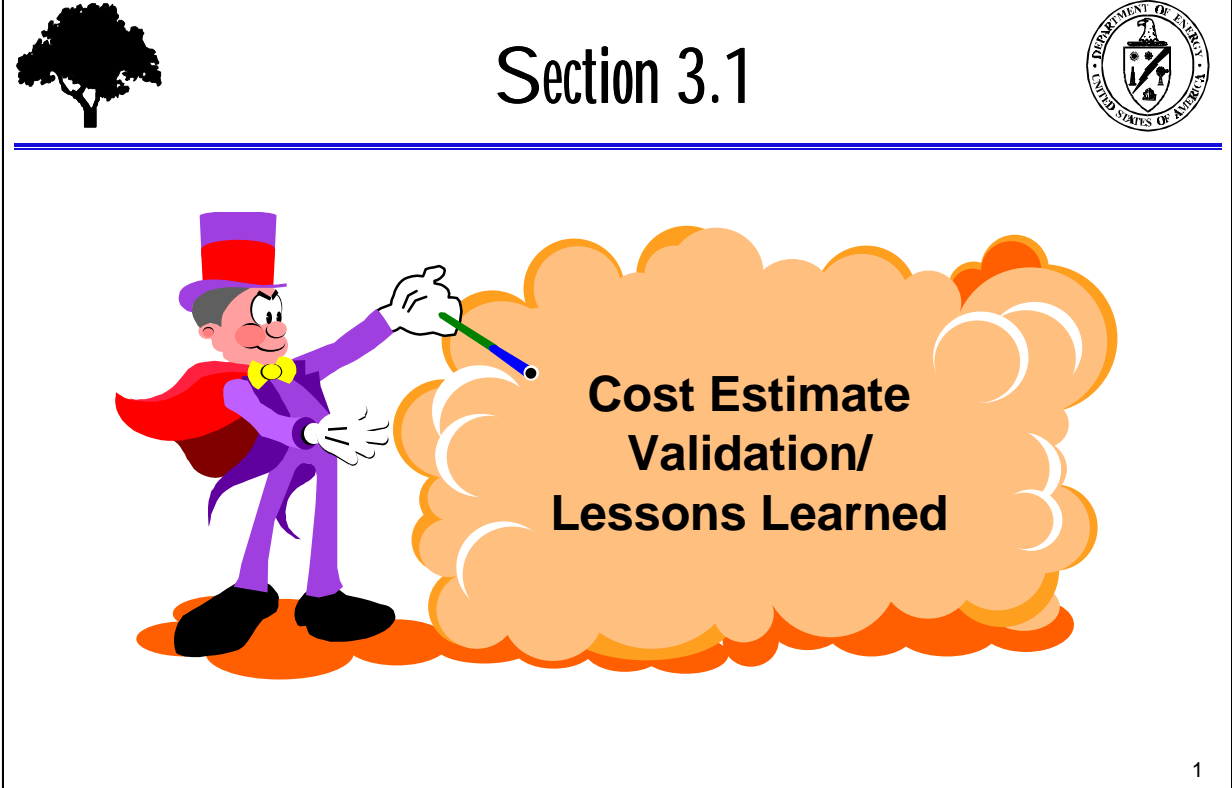


Section 3.1: Cost-Estimate Validation/Lessons Learned



The graphic features a cartoon character on the left, dressed in a purple suit, a red top hat, and a red cape. He is holding a green pointer and pointing towards a large, orange, cloud-like shape on the right. Inside the cloud, the text "Cost Estimate Validation/ Lessons Learned" is written in bold black font. In the top left corner of the graphic area is a silhouette of a tree, and in the top right corner is the official seal of the U.S. Department of Energy. A small number "1" is located in the bottom right corner of the graphic area.

This section will include the following topics:

- Why validate a cost estimate?
- What are the types of cost-estimate validations?
- Who is involved in cost-estimate validation?
- Where is cost-estimate validation performed?
- When do cost-estimate validation efforts occur?

Notes / Discussion Points / Lessons Learned: _____

Section 3.1: Cost-Estimate Validation/Lessons Learned



Why Validate a Cost Estimate?



- **To ensure that the estimate is ready for inclusion in the DOE Internal Review Budget (IRB) EM Corporate Budget Review process**
- **To ensure that the DOE funding request is consistent with scope of work**
- **To ensure a good baseline estimate for performance measurement**

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Baseline estimates should be validated for the following reasons:

- To ensure that all line items are ready for inclusion in the DOE Internal Review Budget (IRB)/EM Corporate Budget Review process (EM has streamlined the Budget Process Review process so that the internal review would go straight to corporate Budget Review.)
- To ensure that the DOE funding request is consistent with the scope of work
- To ensure a good baseline estimate for accurate performance measurement

Notes / Discussion Points / Lessons Learned: _____

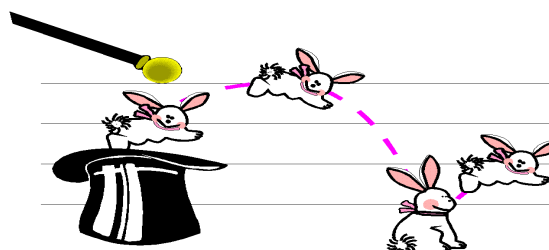
Section 3.1: Cost-Estimate Validation/Lessons Learned



What are the Types of Cost-Estimate Validations?



- Independent cost estimate (ICE)
- Independent cost review (ICR)
- Program or internal review
- Comparisons or estimate check using parametric tools



Typically, a validation must look at the technical scope, cost, and schedule. However, attempts are sometimes made to do these reviews as separate efforts. A cost estimate must have adequate scope and technical basis as well as a schedule. Validation is performed to verify or validate the reasonableness, correctness, and completeness of the estimate. The types of validations include Independent Cost Estimate (ICE), Independent Cost Review (ICR), Program or Internal Review, and Parametric Technique.

Independent Cost Estimate (ICE)

ICE is a documented cost estimate with the express purpose of which is to be an analytical tool to validate, cross-check, or analyze an estimate developed by proponents of a project. An ICE also serves as a basis for verifying cost-risk assessment.

Independent Cost Review (ICR)

ICR is also a validation process. An ICR differs from an ICE in that the independent team/person critiques or reviews the existing estimate as opposed to performing a separate independent estimate. An ICR is performed by someone who had no involvement in the original estimate. Management may use an ICR to review the estimate for completeness, reasonableness, and consistency. The review may use historical data, parametric techniques, expert opinions, and other means to verify the reasonableness of unit prices and other values in the original estimate.

(Continued on next page)

Notes / Discussion Points / Lessons Learned: _____

Section 3.1: Cost-Estimate Validation/Lessons Learned

Program or Internal Review


A Program or Internal Review is a review or check of an existing cost estimate to assess the correctness and completeness of the estimate. This review is done by the program/project.

Parametric Technique


Parametric estimating models can be used to verify or check the reasonableness of an estimate. Several parametric models have been developed with government funds for this purpose (e.g., RACER, SCEES, CORA). These models are described in detail in the *Catalog of Cost Estimating Models and Evaluation of the Development of a Cost Estimating Tools Library on Electronic Media* prepared for Office of Infrastructure Acquisition (FM50), U. S. Department of Energy, September 1995.

Notes / Discussion Points / Lessons Learned: _____

Section 3.1: Cost-Estimate Validation/Lessons Learned




Who Validates a Cost Estimate?



Individual

or



Validation team

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Validation of a cost estimate may be accomplished by either an individual or a team. The correct resource or resources required for validation will depend on the validation objectives and the method of validation selected. Factors to consider in the determination of who should validate a baseline estimate should include the following:

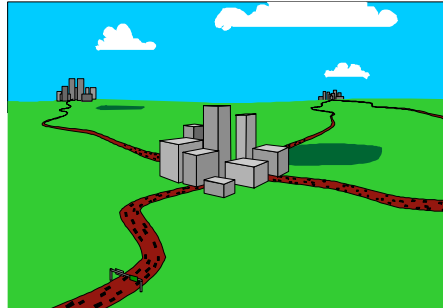
1. To define special skills for the validation.
2. To balance technical expertise, program/project control, cost estimating, scheduling, regulatory, audit, and oversight capabilities.
3. To select individuals/team members to match the necessary skill mix.

Notes / Discussion Points / Lessons Learned: _____

Section 3.1: Cost-Estimate Validation/Lessons Learned



Where is Validation Accomplished?



- **Typically, at the site**
- **Sometimes, independently off-site**
- **Combination of on-site and off-site**

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Validation can be accomplished either on-site, or off-site, or a combination of both. Determination of where the validation will be conducted is based on the validation objectives and the method employed.

Notes / Discussion Points / Lessons Learned: _____

Section 3.1: Cost-Estimate Validation/Lessons Learned



When to Validate a Cost Estimate



- **Before project start for an accurate performance baseline**
- **For project inclusion into the DOE budget**
- **Before seeking increased funding for an existing project**
- **When the integrity of the baseline is questioned and the expense of validation is warranted**

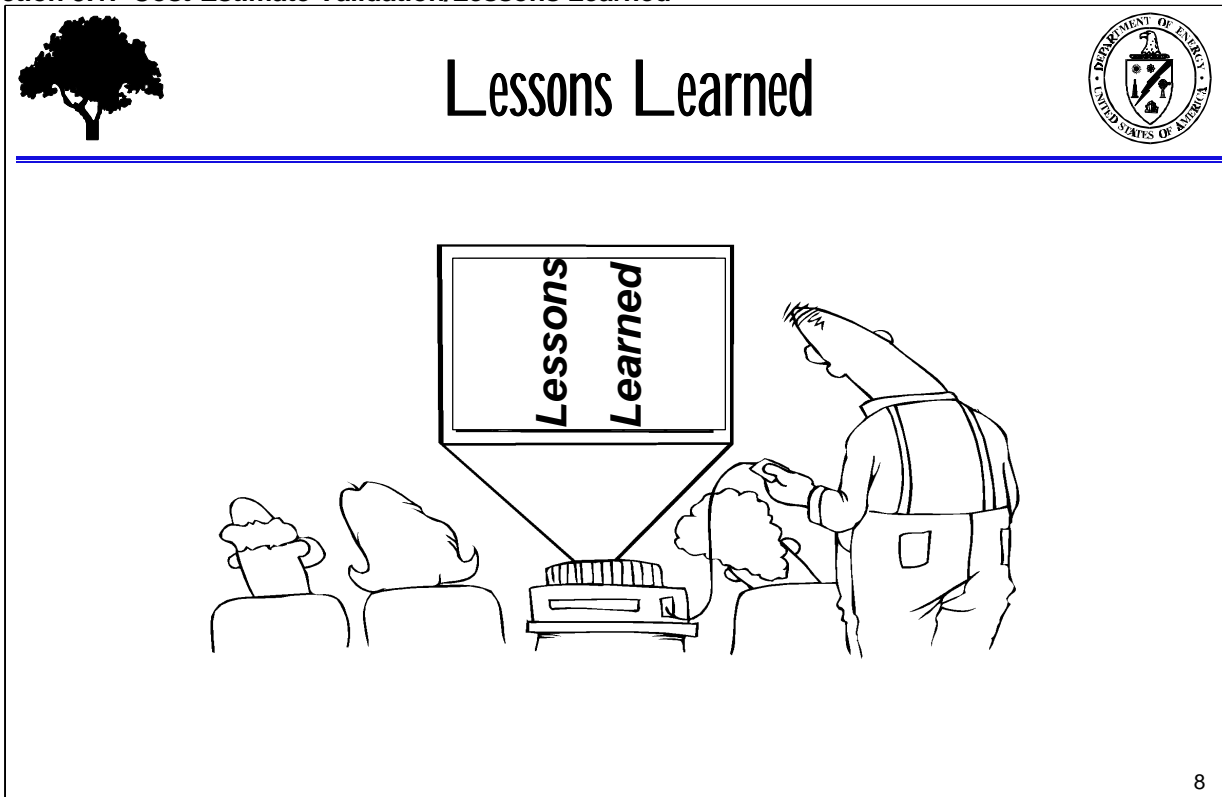
7

Validation should be conducted:

- Before the project start to establish an accurate baseline for project execution and performance measurement
- Before inclusion of a project into the DOE budget
- Before requesting increased funding for an existing project
- When the integrity of the baseline is questioned and the expense of the validation is warranted

Notes / Discussion Points / Lessons Learned: _____

Section 3.1: Cost-Estimate Validation/Lessons Learned



1. Does validation occur on projects seeking funding?
Who does the validation?
What type is done?
Who decides what type of validation is required?
How is the validation request and actual validation documented?
What types of changes have resulted from the validations?
Based on the validation results, how is the funding request changed?
2. How much involvement does the program-level management have in validation results?
3. What/who decides when an ICE is required?
4. Who decides whether a team or an individual validates a project baseline?
How is independence ensured?
5. If a team is to validate a baseline, who decides on the members? How is the skill mix defined, and how is it satisfied?
6. Who leads a validation? Who decides who the leader is?

Notes / Discussion Points / Lessons Learned: _____

