AACE INTERNATIONAL RECOMMENDED PRACTICE

34R-05

BASIS OF ESTIMATE

AACE INTERNATIONAL

AACE® International Recommended Practice No. 34R-05

BASIS OF ESTIMATE

TCM Framework: 7.3 – Cost Estimating and Budgeting

Rev. October 5, 2021

Note: As AACE International Recommended Practices evolve over time, please refer to web.aacei.org for the latest revisions.

Any terms found in AACE Recommended Practice 10S-90, *Cost Engineering Terminology*, supersede terms defined in other AACE work products, including but not limited to, other recommended practices, the *Total Cost Management Framework*, and *Skills & Knowledge of Cost Engineering*.

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Disclaimer: The content provided by the contributors to this recommended practice is their own and does not necessarily reflect that of their employers, unless otherwise stated.

October 5, 2021 Revision:

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1. INTRODUCTION

AACE International's *Total Cost Management (TCM) Framework* [1] identifies a basis of estimate (BOE) document as a *required* component of a cost estimate. As a recommended practice (RP) of AACE International, the template outlined in the following sections provides guidelines for the structure and content of a cost basis of estimate.

In the *TCM Framework*, the BOE is characterized as *the one deliverable that defines the scope of the project*, and ultimately becomes *the basis for change management*. When prepared correctly, any person with capital project experience can use the BOE to understand and assess the estimate, independent of any other supporting documentation. A well-written BOE achieves those goals by clearly and concisely stating the purpose of the estimate being prepared (i.e., cost study, project options, funding, etc.), the project scope, pricing basis, allowances, assumptions, exclusions, cost risks and opportunities, and any deviations from standard practices. In addition, the BOE is a documented record of pertinent communications that have occurred and agreements that have been made between the estimator and other project stakeholders.

A well-prepared basis of estimate will:

- Document the overall project scope.
- Communicate the estimator's knowledge of the project by demonstrating an understanding of scope and schedule as it relates to cost.
- Communicate the uncertainty associated with the estimate and alert the project team to potential cost risks and opportunities.
- Provide a record of key communications made during estimate preparation.
- Provide a record of all documents used to prepare the estimate.
- Act as a source of support during dispute resolution.
- Establish the initial baseline for scope, quantities and cost for use in cost trending throughout the project.
- Provide the historical relationships between estimates throughout the project lifecycle.
- Facilitate the review and validation of the cost estimate.
- Highlight deficiencies in estimate preparation that may impact the estimate.
- Be aligned with the estimate plan document.

Although the primary intent of this RP is to provide a guideline for the topics and contents to be included in a typical BOE, there are a few points of significance worth noting. A basis of estimate should:

- Be factually complete, but concise.
- Be able to support facts and findings.
- Identify estimating team members and their roles.
- Describe the tools, techniques, estimating methodology, and data used to develop the cost estimate.
- Identify other projects that were referenced or benchmarked during estimate preparation.
- Be prepared in parallel with the cost estimate.
- Establish the context of the estimate, and support estimate review and validation.
- Qualify any rates or factors that are referenced either in the estimate or BOE; e.g. productivity can be expressed as either units/time (linear feet/hour) or time/units (hours/linear foot).

This RP is intended to be a guideline, not a standard. It is understood that not all organizations that prepare estimates employ the same processes and practices, and therefore, may opt to use this information either in part or in its entirety.

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2. ESTIMATE BASIS DEVELOPMENT PROCESS

This section defines the main steps and discusses issues to be considered while preparing a BOE. In general, a separate BOE will be developed for each individual estimate, but the content for projects within a program should be integrated where appropriate. Some projects may lend themselves towards having a single estimate basis for all individual scopes of the project.

Figure 1 highlights the requirements of the estimate basis development process.

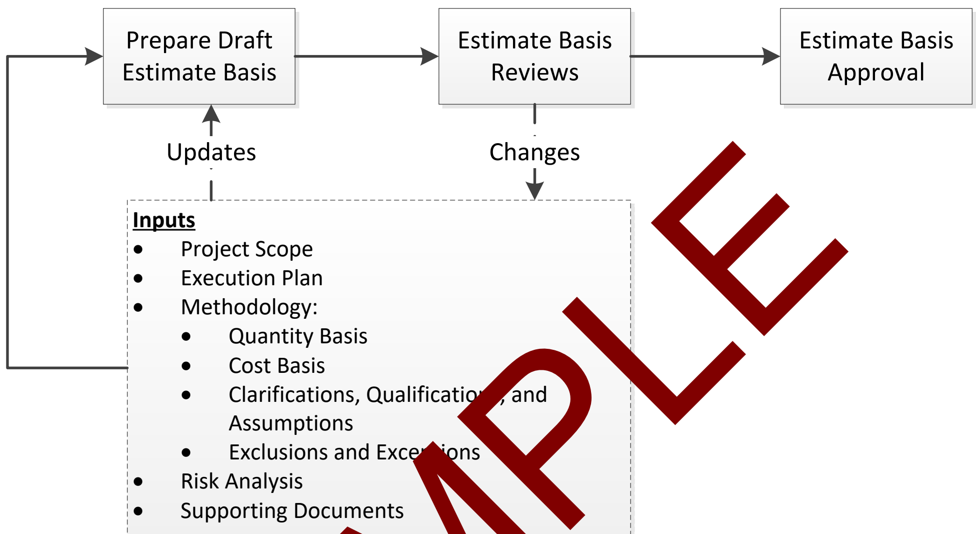

Figure 1. – Estimate Basis Development Process

2.1. Inputs to the BOE

The BOE should leave the reader with a clear understanding of the information and assumptions the estimator has used in developing the estimate. It should clearly define:

- Scope of the estimate.
- Methodologies used to develop the estimate.
- Sources and quality of supporting data.
- All inputs to the estimate.
- All required outputs.
- Any areas of uncertainty within the estimate including significant risks.

The quality of the estimate and BOE should be such that the reader can make clear business decisions based on the provided information and support project system analyses (lessons learned, claims, historical, etc.)

The BOE should reflect the owner's specifications for the BOE. It is the responsibility of the lead estimator to develop an estimate basis which will satisfy the owner's needs. Where multiple contractors are involved, the BOE must clearly define the scope of the estimate. The basis should note portions of the overall project scope that fall outside of the estimate, which the reader may otherwise expect to be included (e.g., mining equipment is included, but the initial mine excavation is executed by another contractor and is excluded from the estimate).