DEVELOPMENT OF COST ESTIMATE PLANS - AS APPLIED IN ENGINEERING, PROCUREMENT, AND CONSTRUCTION FOR THE PROCESS INDUSTRIES
DEVELOPMENT OF COST ESTIMATE PLANS – AS APPLIED IN ENGINEERING, PROCUREMENT, AND CONSTRUCTION FOR THE PROCESS INDUSTRIES
TCM Framework: TCM Framework: 7.3 Cost Estimating and Budgeting

Rev. February 14, 2015

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

Contributors:
Disclaimer: The opinions expressed by the authors and contributors to this recommended practice are their own and do not necessarily reflect those of their employers, unless otherwise stated.

Gregory C. Sillak (Author)
Bruce E. Bradley
Keith R. Didriksen
Fabiana Francis, PSP
Dr. Paul D. Giammalvo, CCE
Ambrish Gupta
John K. Hollmann, PE CCE CEP
Carlton W. Karlik, PE CEP
Christopher L. Kinney
Paul S. Kupakuwana
Paratharajan N. Pille
L. Ron Rowland
Terence M. Stackpole
T. Mac Sumrall, CCC
David A. Williams, CEP
Charles P. Woodward, PE CCE CEP
Joseph Yang, CCE
Nor Y. Yazid
James G. Zack, Jr. CFCC
INTRODUCTION

Purpose

This recommended practice (RP) of AACE International (AACE) is a guideline for development of cost estimate preparation plans for engineering, procurement and construction (EPC) projects in the process industries.

The purpose of a cost estimate preparation plan (herein referred to as “estimate plan”) is to establish and communicate how the preparation, development, review and approval of the estimate will be completed.

Background

AACE International’s Total Cost Management (TCM) Framework section 7.3.2 “Plan for Cost Estimating and Budgeting” highlights the need to develop estimate plans. This RP delineates industry-specific practices for development of an estimate plan as they are applied to EPC projects in the process industries. (A future AACE International RP will provide a guideline for development of a generic cost estimate plan.)

Cost estimating in the hydrocarbon processing industries (e.g.; chemical, refining, petroleum production facilities, etc.) has evolved to a relatively advanced state over more than four decades of application. These industries have developed many common practices and identified industry-specific best practices through benchmarking and knowledge-sharing. The practices reflected in this document are a result of compiling notes made by industry practitioners, lessons learned and publicly available documents.

Scope

With reference to the TCM Framework, this document addresses the steps before and after the “Plan for Estimating and Budgeting” step to the extent necessary for an effective estimate plan.

This document is primarily focused on estimates prepared for project sanction purposes of land-based facilities. Typically, project sanction is based on a Class 3 estimate. Estimate plans for other classes of estimates may be adapted from this document.

The basic principles are applicable to all contracting strategies and asset owner (herein referred to as “owner”) configurations. For example, contracting strategies may be in the form of reimbursable engineering with fixed price procurement and construction and/or EPC alliances, etc. Owner configurations may include self-perform, partnerships with a named “operating company” or consortiums responsible for managing the project/program and so on. Some key principles are:

- Preparation of an estimate plan helps to ensure successful estimate completion in an effective and timely manner.
- Engaging key stakeholders in the estimate planning process prior to the start of the estimate development process, improves the likelihood of meeting estimate objectives.
- The estimate plan defines what information is required from who and when.
- An approved estimate plan provides a duly authorized basis to proceed with the estimating effort, clarifies requirements and responsibilities.
RECOMMENDED PRACTICE

This recommended practice is divided into three main sections:

1. The **Estimate Development Plan Process** defines the main steps and discusses issues to be considered in preparing an estimate plan.
2. The **Estimate Plan Format and Content** provides a suggested format for an estimate plan along with annotations. It is designed to allow practitioners to use and modify it as needed for their specific situation.
3. **Appendices** contain sample formats which are used in conjunction with the estimate plan.

ESTIMATE DEVELOPMENT PLAN PROCESS

Figure 1 illustrates a summary of the estimate development plan process.

**Inputs to Estimate Plan Development**

It is recommended that owners furnish specifications for estimate plans within the contract or prior to the contractor(s) preparing an estimate plan. In any case, the onus is with the lead estimator of each organization to develop an estimate plan which will satisfy the owner’s needs. Where multiple contractors are involved, the owner is ultimately responsible to ensure that all organizations involved are properly coordinated in terms of scope delineation, estimate delivery timing and consolidation. In cost reimbursable situations, owner agreement on how the estimate will be prepared before developing the estimate is crucial. If this is not done, accusations of wasting the owner’s money may be directed toward the contractor and it may result in the owner’s refusal to pay for the