SCHEDULE AND COST RESERVES
WITHIN THE FRAMEWORK OF
ANSI EIA-748
AACE® International Recommended Practice No. 75R-13

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TCM Framework: 7.3 – Cost Estimating and Budgeting
7.6 – Risk Management
9.1 – Project Cost Accounting
10.3 – Change Management

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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.

Kimberly A. Hunter, EVP (Author)        Robert Loop, EVP PSP
Dan Melamed, CCP EVP (Author)           Donald F McDonald, Jr., PE CCP PSP
Ronald L. Clendenon, EVP                 Dr. Stephen P. Warhoe, PE CCP CFCC
INTRODUCTION

Scope

This recommended practice (RP) describes the definition, purpose, management, and control of schedule and cost reserves on projects being implemented under American National Standards Institute (ANSI) Electronics Industries Alliance (EIA) - 748 Earned Value Management Systems (EVMS) guidelines with a focus on Federal Acquisition Regulation (FAR), required for projects funded by the United States government. This includes contingency, management reserve (MR), schedule margin (SM), undistributed budget (UB), and authorized unpriced work (AUW). Overall use of management reserve for programs and portfolios are not within the scope of this document. This document elaborates and provides additional detail that is consistent with however not included in the ANSI EIA-748 standard. It is intended to provide general guidelines from the owner and contractor perspectives. As with all AACE International recommended practices, this document is not intended to be a standard.

Purpose

This RP starts with contingency as defined in common usage in RP 10S-90, Cost Engineering Terminology. It specifically provides guidance regarding the management and use of management reserve and undistributed budget on projects being executed using earned value management (EVM) techniques consistent with the ANSI EIA-748 standard. This RP defines the non-time-phased components of the contract budget baseline (CBB), and may be used when project management consistent with EVMS tenets is implemented and practiced in a disciplined manner.

In this RP the cost contingencies are mitigated through the use of management reserve and schedule contingencies in schedule margin. Also, undistributed budget is defined as the amount of the budget of the performance measurement baseline that has yet to be allocated either to control accounts or to summary level planning packages.

This RP covers the scope of ANSI EIA-748 Guidelines 14 and 15 entirely and components of ANSI EIA-748 Guidelines 8, 28, 29, 30 and 32 regarding revisions and change control (as listed in the National Defense Industries Association (NDIA) Program Management Systems Committee (PMSC) Earned Value Management Systems Intent Guide).

RECOMMENDED PRACTICE

Terminology within the RP

The terms “management reserve” and “contingency” are used in different context in different communities and industries. This can create significant confusion in discussion of ownership and use. This RP will be used in the

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1 Note there is a threshold for United States government projects which varies from agency to agency (for example projects estimated with a TPC less than $20 M for the United States Department of Energy).
context of ANSI EIA-748 terminology which is a requirement for many projects; especially high cost projects including those funded by the United States government. Specifically, owner level cost reserve for the management of project uncertainties is referred to as contingency and the contractor’s cost reserve is referred to as management reserve. It should also be noted that for projects that are not required to comply with ANSI EIA-748, common industry nomenclature may be used as shown in Table 1.

<table>
<thead>
<tr>
<th>Level/Type of Cost</th>
<th>Terms Used in ANSI EIA-748/Capital Programming Guide Reference</th>
<th>Terms Used in Common Commercial Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner Cost Contingency</td>
<td>Contingency</td>
<td>Management Reserve</td>
</tr>
<tr>
<td>Owner Schedule Contingency</td>
<td>Contingency</td>
<td>Schedule Contingency</td>
</tr>
<tr>
<td>Contractor Cost Contingency</td>
<td>Management Reserve</td>
<td>Cost Contingency</td>
</tr>
<tr>
<td>Contractor Schedule Contingency</td>
<td>Schedule Margin</td>
<td>Schedule Contingency</td>
</tr>
</tbody>
</table>

Table 1 - Comparisons of terms for schedule and budget reserves created and managed on the contractor and owner level for project uncertainties (this may vary by Industry)

The illustration, shown in Figure 1, is a simplified representation of typical project cost and price structure that follow the Federal Acquisition Regulation (FAR), the Capital Programming Guide, and ANSI EIA-748 terminology with boxes representing which components of the project cost are controlled by the owner and which are controlled at the contractor level: The boxes with a light blue indicate management at the owner level and purple shade indicate management at the contractor level. Management reserve and contingency are highlighted (circled). It should also be noted that the specifics for the management of profit/fee are beyond the scope of this document. Unearned fee is held by the owner until the contractor completes the required activities to earn profit and/or fee. It should be noted that earned value management is handled at the cost level, starting at the negotiated contract cost (NCC), which does not include profit or fee. Further discussion of profit and/or fee is beyond the scope of this RP.
Figure 1 – An Illustration of a typical project cost and price structure for a project performance baseline, based upon the ANSI EIA-748 Standard as well as the United States government [1]. Management reserve and contingency are highlighted.

Notes to Figure 1:
(1) Since this figure represents a cost and price structure, schedule reserves and schedule margin are not illustrated.
(2) Boxes that are colored blue indicate cost and price components that are managed at the owner level while boxes that are colored purple represent costs are managed at the contractor level.
(3) For this (simplified) illustration profit/fee is listed as managed by the owner until earned by the contractor; EVMS is managed at the costs starting at the NCC and does not manage price (which includes profit and/or fee). Discussions of profit/fee are beyond the scope of this RP.

Contingency and Management Reserve within the Existing TCM Framework

Contingency is defined in RP 10S-90, Cost Engineering Terminology. Broadly, it is defined as an amount of either schedule or cost added for the management of unknown events at any estimated level. Management reserve and schedule reserve are specialized cases of contingency applicable with earned value. They are all held as single