

AACE
INTERNATIONAL
**RECOMMENDED
PRACTICE**

61R-10

**SCHEDULE DESIGN - AS APPLIED IN
ENGINEERING, PROCUREMENT, AND
CONSTRUCTION**

SAMPLE

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AACE® International Recommended Practice No. 61R-10

SCHEDULE DESIGN – AS APPLIED IN ENGINEERING, PROCUREMENT, AND CONSTRUCTION

- TCM Framework 4.0 – Project Implementation
- 7.1 – Project Scope and Execution Strategy Development
- 7.2 – Schedule Planning and Development
- 7.3 – Cost Estimating and Budgeting
- 7.4 – Resource Planning
- 7.5 – Value Analysis and Engineering
- 7.6 – Risk Management
- 7.7 – Procurement Planning
- 10.3 – Change Management

Rev. October 11, 2013

No. 61R-10 AACE International Recommended Practices evolve over time, please refer to www.aacei.org for the latest revisions.

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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.

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TCM Framework: 4.1 – Project Implementation

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October 11, 2013

INTRODUCTION

Scope

This recommended practice (RP) for schedule design is intended to provide a guideline, not to establish a standard. As a recommended practice of AACE International, this document provides guidelines for the project scheduler to start the planning for developing a baseline schedule and is applicable only as a precursor to the development of the baseline schedule.

Purpose

This recommended practice is oriented to critical path method (CPM) schedule design. This recommended practice does not address schedule development but instead provides the framework to enable an efficient and accurate facilitation of the schedule development process. All schedule development should be done after this schedule design process is complete since the completion of design is necessary before a good schedule development process can progress effectively.

Background

This RP provides guidelines to assist engineering, procurement, and construction entities planning for schedule development. When used, the term "owner" includes the work performed by their agents such as an architect and/or construction manager. Overall, these participants are responsible for the complete, accurate, and useful design of the schedule in order to guide and facilitate the development of the baseline schedule.

Schedule design is important to development of an effective baseline schedule. Often, schedulers tend to focus on the mechanics of schedule development while ignoring the primary purpose of the schedule, which is to communicate the scope and sequence of activities necessary to complete the project. Decisions such as level of detail, reporting needs, end user needs, etc. need to be considered as part of the schedule development.

An effective schedule will integrate with project specifications, scope of work, contracts, and other project deliverables that have an impact on the completion date. Well designed schedules support cost and schedule forecasts with appropriate level of detail to enable effective project management.

Effective schedules are achieved with sufficient forethought and must be deliberately designed. Schedule design is an essential prerequisite to schedule development, the latter being a technical function which can be performed by a competent scheduler. Schedules need to be planned to ensure the right product delivery to the stakeholders.

October 11, 2013

SCHEDULE DESIGN

Schedule design occurs after the project scope and execution strategy development process (TCM 7.1) has generated the project implementation basis, and translated that project implementation basis into controllable project scope definition and an execution strategy. This execution strategy represents only a general approach through which the work will be performed, and is insufficient by itself to allow a scheduler to begin the schedule development process (TCM 7.2), including creation of a list of activities, assignment of durations, etc. The start of the schedule development process requires inputs beyond those encompassed by the project scope and execution strategy development process. The successful completion of that process alone does not provide sufficient technical guidance to a scheduler to allow an effective translation of the execution strategy into a coherent schedule.

Schedule design is the collection, coordination, and organization of the inputs necessary to translate the execution strategy into a well-developed schedule. This should accurately represent the project's proposed means and methods for accomplishing the work. It also provides the basis for a technically sufficient CPM network which will allow for monitoring and control of the project.

The inputs necessary to execute the schedule development process that become the components of the schedule design process include, but are not limited to:

- Definition of schedule purpose
- Project specific definitions
- Collection of input data
- Identification of team members/roles
- Identify responsibility assignments
- Selection of software
- Work product deliverables
- Report design
- Internal influences
- Description of schedules
- Schedule outline
- Level of detail
- Define required calendars
- Activity code definition
- Weather planning
- Resource planning
- Schedule narrative design
- Risk management plan
- Lessons learned/historical data
- External influences
- Permitting requirements
- Constructability planning
- Subcontractor / supplier / procurement planning
- Cash flow planning
- Change management planning
- Long lead time items planning
- Owner furnished equipment / fixtures planning