

**AACE**  
INTERNATIONAL  
**RECOMMENDED  
PRACTICE**

**39R-06**

**PROJECT PLANNING - AS APPLIED  
IN ENGINEERING AND  
CONSTRUCTION FOR CAPITAL  
PROJECTS**

**SAMPLE**

**AACE**  
INTERNATIONAL



AAACE® International Recommended Practice No. 39R-06

## PROJECT PLANNING – AS APPLIED IN ENGINEERING AND CONSTRUCTION FOR CAPITAL PROJECTS

TCM Framework: 3.1 – Requirements Elicitation and Analysis

3.2 – Asset Planning

4.1 – 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

8.1 – Project Control Plan Implementation

Rev. December 8, 2011

Note: As AAACE International Recommended Practices evolve over time, please refer to [www.aacei.org](http://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.*

Edward E. Douglas III, CCC PSP (Author)

Peter W. Griesmyer (Author)

Christopher W. Carson, PSP

John O. Evans III, PSP

Earl T. Glenwright Jr., PE

John Hollmann, PE CCE CEP

Donald F. McDonald Jr., PE CCE PSP

Jose Noe

Glen R. Palmer, CFCC PSP

Donald E. Parker, PE CCE

Perry Petersen

Wesley R. Querns, CCE

Hannah E. Schumacher, PSP

Carmelita Thorndike, PSP

Ronald M. Winter, PSP

David C. Wolfson

James G. Zack Jr., CFCC

## PROJECT PLANNING – AS APPLIED IN ENGINEERING AND CONSTRUCTION FOR CAPITAL PROJECTS



TCM Framework: 3.1 – Requirements Elicitation and Analysis

3.2 – Asset Planning

4.1 – 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

8.1 – Project Control Plan Implementation

December 8, 2011

### PURPOSE

This recommended practice (RP) to project planning provides guidelines developed primarily for engineering and capital construction projects.

AACE International Recommended Practices are intended to provide guidelines, not to establish standards. This recommended practice is intended to be a guide for the many project team members involved in the planning and scheduling of their work process and can be adapted for any type of project or program where planning is required.

This recommended practice is intended to focus on the elements of project planning: who, what, where, when, and how. It also focuses on the actions required by members of the project team in order to translate that planning effort into a useful project plan that will serve as a management navigation tool to guide the project team to successful project completion. This RP will focus on the actions required by the engineering and construction project team AFTER the development of the clients' business requirements, business case, alternatives and assumptions.

### APPLICABILITY

This recommended practice is intended to provide guidance for the planning process as it pertains primarily to capital project planning. Project planning is a critical and important step in commencing a project and the subsequent preparation of the project execution schedule.

### TCM Framework Correlation

This recommended practice includes references to many of the planning elements detailed in AACE International's TCM Framework included in the following chapters:

- Chapter 3 – Strategic Asset Planning
- Chapter 4 – Project Implementation
- Chapter 7 – Project Control Planning
- Chapter 8 – Project Control Plan Implementation

Project planning as outlined in TCM is a process comprised of a series of integrated steps which begin with conceptual planning, continues with project scope development and execution planning, schedule planning and schedule development, resource and procurement planning, cost estimating and budgeting, risk management,

December 8, 2011

value management and after approval ultimately concludes with project controls implementation. Other key components of the planning process for construction that need to be understood are logistics planning and planning documentation.

## OVERVIEW

Project planning, as defined by AACE is “the determination of a project’s objectives with identification of the activities to be performed, methods and resources to be used for accomplishing the tasks, assignment of responsibility and accountability, and establishment of an integrated plan to achieve completion as required.” <sup>[1, 2]</sup>

Project planning consists of:

- Identifying project stakeholders and their roles, responsibilities and their affect on the scheduling planning process.
- Identifying contract requirements including project delivery methods under the terms of the contract. The contract delivery method will determine the extent of the planning effort by the project team.
- Identifying the constraints, and variables that will allow the project team to begin the planning process.
- Establishing a planning process to determine the scope of work, client requirements, schedule hierarchy, division of responsibility, project plan review and approval requirements and distribution.
- Identifying major work activities (phases) and deliverables (goals) and the preferred sequence in which they are to be accomplished.
- Establishing an integrated time phases plan to achieve project completion as required.
- Identifying project management coordination necessary to establish cost/schedule areas for the further definition of the scope of work.
- Development of non-schedule related planning methodologies such as logistics planning including but not limited to: site access plans, heavy lift plans, placement of cranes, long lead material/equipment procurement plans, owner provided material/equipment planning, and other such specific purpose plans. These planning methodologies **are not discussed** in detail in this RP however an effort will be made to identify the major non-schedule planning methods that are required on most engineering and capital construction projects.

## RECOMMENDED PRACTICE

### Schedule Planning and Schedule Development

Planning and scheduling are distinctively different but related processes for capital construction projects. Schedule planning and schedule development usually require a different set of skills and knowledge.

Planning consists of planning the work, the resources, and the estimated cost over time to complete the scope of work defined in the early phases of project. Schedule planning includes the identification of many elements that are associated with the scope of work which is developed into work packages, sequenced into phases and then discrete activities. The means, methods and resources have iterative planning processes as the project plan is