

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

**62R-11**

**RISK ASSESSMENT:  
IDENTIFICATION AND QUALITATIVE  
ANALYSIS**

**SAMPLE**

**AACE**  
INTERNATIONAL



AACE International Recommended Practice No. 62R-11

## RISK ASSESSMENT: IDENTIFICATION AND QUALITATIVE ANALYSIS

TCM Framework: 7.6 – Risk Management

Rev. February 18, 2022

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

### **Contributors:**

*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.*

### **February 18, 2022 Revision:**

John K. Hollmann, PE CCP CEP DRMP FAACE Hon. Life  
(Primary Contributor)  
Jessica Colbert, PRMP PSP  
Francisco Cruz, PE  
Simmi SR Dhunpath, CEP

Kimberly D. Forbes, PSP  
Donny Lai  
Dr. Luis Henrique Martinez  
Terence Steeneveldt, PRMP  
Amin Terouhid, DRMP PSP

### **May 11, 2012 Revision:**

David C. Brady, P.Eng. (Primary Contributor)  
James E. Arrow  
Chris Beale  
Leonard Enger, CCE  
Chantale Germain

Dennis Read Hanks, PE CCE  
Rob Hartley, PSP  
John K. Hollmann, PE CCE CEP  
Sami M. Jaroudi, CCC

## TABLE OF CONTENTS

Table of Contents .....	1
1. Introduction .....	2
1.1. Scope .....	2
1.2. Purpose .....	2
1.3. Background .....	3
2. Recommended Practice .....	3
2.1. Risk Identification Planning .....	3
2.2. Risk Identification .....	6
2.3. Qualitative Risk Analysis .....	11
2.4. Outputs .....	15
References .....	15
Contributors .....	16
Appendix A. Examples of Guidelines for Probabilities, Consequences, and Other Potential Parameters .....	17

February 18, 2022

## 1. INTRODUCTION

### 1.1. Scope

This recommended practice (RP) of AACE International defines the expectations, requirements, and practices for identifying and qualitatively analyzing uncertainty and risk drivers as part of the overall risk management process. It expands on the first two tasks of the *TCM Framework* section 7.6.2.2 *Risk Assessment*; i.e., *Risk Identification* and *Qualitative Risk Analysis*, covering common practices and tools such as brainstorming, interviews, and checklists. [1] It also covers documentation for and the deliverables from the assessment process step (e.g., risk register). It does not cover the third task of TCM section 7.6.2.2 *Quantitative Risk Analysis* (see Professional Guidance Document PGD-02, *Guide to Quantitative Risk Analysis* for reference to various quantification RPs) [2]. It also does not cover risk treatment planning (see RP 63R-11, *Risk Treatment*) [3] or risk management planning (see RP 72R-12, *Developing a Project Risk Management Plan*.) [4]

Risk identification is defined in RP 10S-90, *Cost Engineering Terminology* as a risk management process step for identifying and describing risks for risk analysis and subsequent steps." Qualitative risk analysis is defined as "risk analysis used to screen risks wherein risk probabilities of occurrence and impacts are expressed narratively or in ranked categories of severity. Typically incorporates use of a risk matrix." [5] This RP elaborates and clarifies these definitions.

In TCM, the risk management process is applied in the strategic asset management and project control processes. In the strategic arena, the risk focus tends to be on the state of the current asset, the business environment, and other issues that differentiate alternative asset solutions (e.g. varying levels of scope definition). In the project control process, the risk focus expands to more specific project conditions, plans, deliverables, and events affecting a defined project scope while strategic risks remain. This RP is intended to be generic to any focus area and any project scope.

### 1.2. Purpose

This RP is intended to provide guidelines, not a standard, for developing a process and practices for identifying project uncertainties and risks, and for performing qualitative risk analysis that most practitioners would consider to be practices that can be relied upon. It provides a foundation for developing risk treatment plans as described in RP 63R-11, *Risk Treatment* [3]. Ideally, the risk management process provides an opportunity for all stakeholders and contracting parties to collaborate and manage project risk for their collective benefit. The implementation of all or part of this RP will depend on the size and complexity of the project and its phase of development. The practice should be tailored to be fit-for-purpose, but the basic processes described should be considered for use in all cases.

This RP outlines the processes and practices but is not a detailed "how-to" in each case. In that respect it will most benefit those who are new to risk management or to decision and risk management professionals who want to refresh their knowledge of risk management recommended practices.

It should be noted that this RP does not provide an example risk register because that tool supports multiple risk management purposes (i.e., identification, treatment, risk control and as an input to quantitative risk analysis. However, RP 63R-11, *Risk Treatment* includes a typical list of risk register contents and a description of a typical report on the results of overall qualitative risk assessment.

February 18, 2022

### 1.3. Background

This RP is intended to elaborate on the required skills and knowledge of decision and risk management professionals as identified by AACE International. This area of the body of knowledge is generally considered a well-established area of practice; however, there are differences of opinion in respect to some details of the process and some projects still do not do qualitative risk analysis.

## 2. RECOMMENDED PRACTICE

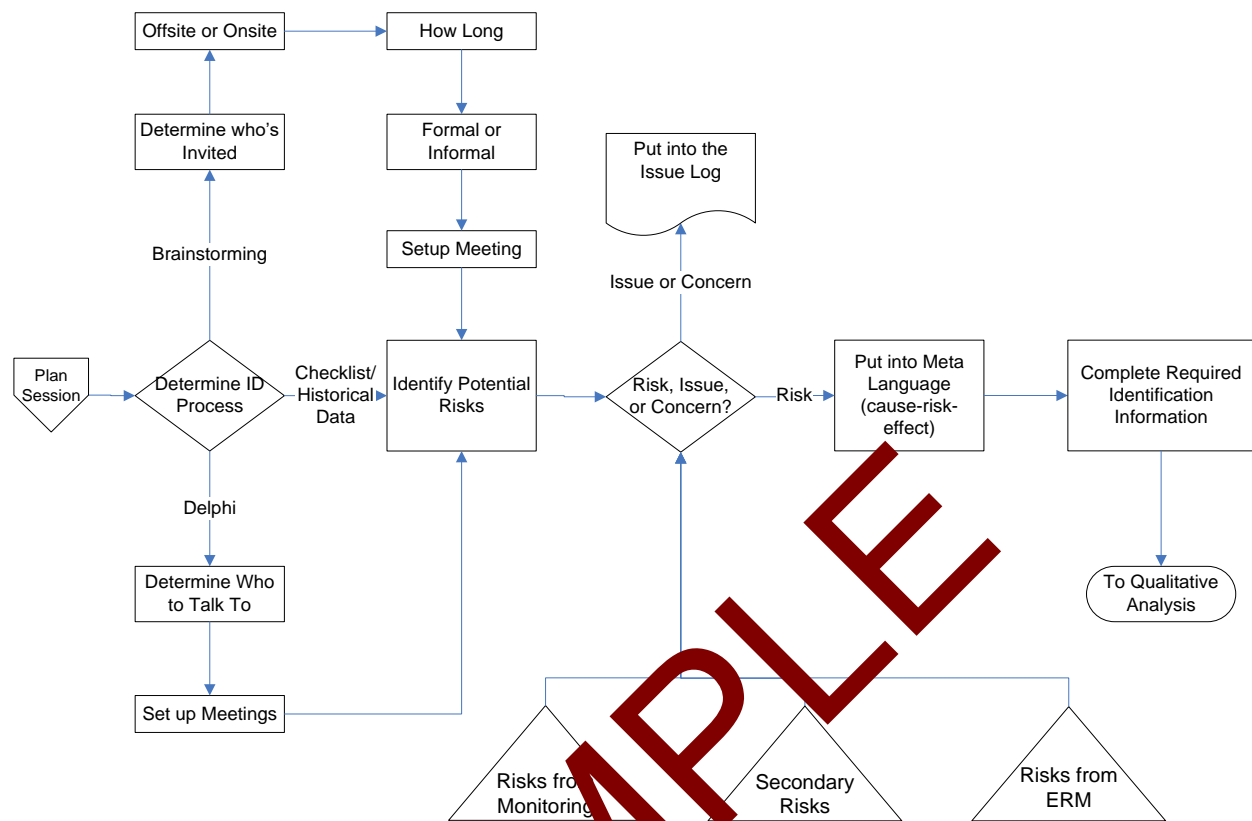
This section defines the practices for identifying and qualitatively analyzing uncertainty and risk drivers as part of the overall risk management process. The section has four parts: risk identification planning, risk identification, qualitative risk analysis, and outputs.

### 2.1. Risk Identification Planning

Prior to identifying the risks to the objectives of an asset alternative or a project, planning of the risk identification step should be done as part of general risk management planning (re: TCM 7.0 [1] and RP 72R-12 [4]). For approved projects, the risk management plan should be part of an integrated project execution plan (PEP) and address who, what, where, when, why, and how risk management will be performed. Figure 1 provides a pictorial example of a typical risk identification process that is further described in this section.

The earlier that risks can be identified, the more time the team has to properly manage them. Risk identification should start as early in the process as practical. In the scoping phase of the project (i.e., Class 5: refer to Professional Guidance Document PGD-01, *Guide to Cost Estimate Classification Systems* [6]), planning is usually led by the sponsoring business, few project specifics are known, and risks will typically be of a strategic nature without application of elaborated risk identification tools such as risk registers. A major enterprise may already have an integrated enterprise risk management (ERM) process in which risks of various types are considered in various sub-processes within a variety of its business operational areas. In this case, it is important that risk identification information be shared between these sub-processes (e.g., a business risk session may identify a market risk of interest to a project team in execution). The use of a more formal risk identification process such as the example in Figure 1 (e.g., risk register) usually begins after a technically-led project team is formed, and specific project scope and plans are defined and have evolved (i.e., that usually takes place at Class 4).

February 18, 2022



**Figure 1 – Example Risk Identification Process Flowchart**

The following is a description of topics to be considered in planning the risk identification process:

- Who?** The responsible lead on this project (i.e., the project risk manager) is first identified and may also be the facilitator(s) of the risk identification workshops or interviews. The success of risk identification is strongly dependent upon the experience, skills, and knowledge of the facilitator; this is particularly important with respect to addressing bias and conflicts. Identify attendees of the risk sessions or who will be interviewed (see section 2.2.2 for discussion of risk elicitation methods). Early in the TCM asset or project requirements elicitation process, the stakeholders in the project objectives or execution should have been identified and they are all potential participants. Table 1 provides some examples of potential attendees that may be involved in the risk identification sessions through the various phases of a project. The phase names are not standard, and the table is not meant to be restrictive but only to provide suggestions. A word of caution – if sensitive or confidential information could be discussed, the list of attendees will have to take this into account.