

**Scope Response: see reworded master document for revisions to charts**

This reference document describes Risk Management, a systematic process of identifying, analyzing, and responding to risk for the entire project life cycle. A risk analysis is performed for five categories of project risk: health and safety, scope, quality, schedule, and cost. The level of detail of the risk analysis and Risk Management Plan is based on the complexity of the project. The Risk Management Plan is a supporting plan that facilitates the implementation of the Project Management Plan (PMP). Risk Management, *Safety and Occupational Health – REF8016[REF8016]*, *Quality Management – REF8008[REF8008]*, *Communications – REF8006[REF8006]*, and *Change Management – REF8009[REF8009]* Plans are developed concurrently in the iterative Program/Project Planning Phase.

In accordance with AR 385-10, Army Safety Program, a risk analysis will be performed for all USACE managed projects. When a project is determined to be other than low-risk, as defined in the risk management plan, the risk must be identified, and associated control procedures defined in the PMP. Only the responsible district or division Commander may provide final PMP approval in the event of an overall project risk rating of high, or very high, respectively.

**Responsibility**

The Project Manager (PM) is responsible for initiating the development of the Risk Management Plan.

The Project Delivery Team (PDT) is responsible for participating in the development of the Risk Management Plan by identifying and defining potential risks and appropriate responses to risks for the project.

**Distribution**

Project Manager (PM)

Project Delivery Team (PDT)

**Ownership**

The BP/P2 Configuration Manager is responsible for ensuring that this document is necessary and that it reflects actual practice.

**Risk Management Plan Format & Content:**

- Identify what the risk management activity is in WBS and describe how often risk management will be performed throughout the project life cycle.

- Describe the budget for risk management plan development and monitoring.
- Customer and Stakeholder Risk Thresholds – Describe the amount of risk that is acceptable.
- Methodology:
  - a. Identify Risks and Characteristics
    - List of Risks
    - Triggers
  - b. Evaluation and Analysis of Risks - Determine Probability and Severity Ratings
  - c. Overall Risk Table
  - d. Describe Highest-Level Risk
  - e. Describe Risk Response Control Procedures - Document identified risks, descriptions, causes, what is affected in the WBS, and impact on project objectives, risk owner and responsibility, agreed response to risk, and expected result of response.
- Risk Monitoring – Describe how the PDT will keep track of identified risks, identify new risks, determine if agreed responses to risks have been executed, and evaluate the effectiveness of risk responses to reduce identified risks. .

## Development of Risk Management Plan:

### Methodology

- Address Risk Management in the Activity Development Process and Resource Estimate Development Process by insuring an activity is added in the WBS and budget for the activity.
- Initiate risk management assessment meeting.
- Identify health and safety hazards and risks to project scope, quality, schedule, and cost.
- [Note: If the SOHP is included then delete the Health and Safety section in the RMP.]

Risks	Triggers	Potential Impact
Example: Failure to meet a milestone could represent an early warning that a schedule delay may occur.	Milestone exceeded	Schedule will be delayed

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Note: Inputs to Risk Identification include but are not limited to the following:

- All project background information
- ☐ Customer quality expectations
- Document in the PMP risk management plan any project variations from district QMP requirements.
- Customer and stakeholder risk tolerance(s)
- Historical records
- Past Lessons Learned
- Scope
- WBS
- Network Diagram
- Cost & Time Estimates
- Project Team Personnel Assignments

**Note:** Safety hazards are potential sources of danger that could be faced while performing a project activity, including environmental and human factors. In addition, consider potential risks that could be associated with accomplishing the project's activities, schedule, and fiscal resources

- Evaluate and analyze each hazard and risk identified above. Determine the appropriate probability rating and severity rating (should the hazard/risk event occur) for each hazard and risk from the tables below.

**Note:** Exercising judgment on how to eliminate or reduce hazards and risks to lessen the overall project impacts is inherent in the risk assessment process. Use the descriptions provided below to describe hazard and risk probabilities and severities.

**Probability Rating Table.** Based on the likelihood that an event will occur.

Probability	Description
Frequent	Occurs often, continuously experienced.
Occasional	Occurs several times.
Likely	Occurs sporadically.
Seldom	Unlikely, but could occur at some time.
Unlikely	Can assume it will not occur.

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**Severity Rating Table.** Based on the degree of injury, property damage, or other mission-impairing factors, to include the degree of impact on the project’s Baseline cost, schedule, scope, and quality thresholds as described in the table below.

	<b>Negligible</b>	<b>Marginal</b>	<b>Critical</b>	<b>Catastrophic</b>
<b>Health and Safety</b>	First aid or minor medical treatment	Minor injury, lost workday accident	Permanent partial disability, temp. total disability > three months	Death or permanent total disability
<b>Cost</b>	Insignificant cost increase	5-10% cost increased	10-20% cost increase	> 20% cost increase
<b>Schedule</b>	Insignificant schedule slippage	5-10% schedule slippage	10-20% schedule slippage	> 20% Overall Project schedule slippage
<b>Scope</b>	Scope change barely noticeable	Minor areas of scope are affected	Scope change unacceptable to customer	Project end item is effectively useless
<b>Quality</b>	Quality degradation barely noticeable	Quality reduction requires customer approval	Quality reduction unacceptable to customer	Project end item is effectively unusable

- Enter probability and severity ratings from above into the Overall Risk Table below to characterize overall project risk as E, H, M, or L (described below) for each of the five risk categories.

E (Extremely High)- Loss of ability to accomplish project.

H (High)- Significantly degrades capabilities to accomplish project.

M (Moderate)- Degrades project accomplishment capabilities.

L (Low)- Little or no impact on project accomplishment.

**Example of Overall Risk Table.**

		<b>Health and Safety Hazard Probability</b>					
			Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M	
	Critical	E	H	H	M	L	
	Marginal	H	M	M	L	L	
	Negligible	M	L	L	L	L	
		<b>Scope Risk Probability</b>					
			Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M	
	Critical	E	H	H	M	L	
	Marginal	H	M	M	L	L	
	Negligible	M	L	L	L	L	
		<b>Schedule Risk Probability</b>					
			Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M	
	Critical	E	H	H	M	L	
	Marginal	H	M	M	L	L	
	Negligible	M	L	L	L	L	
		<b>Cost Risk Probability</b>					
			Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M	

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	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L
	<b>Quality Risk Probability</b>					
		Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

- Evaluate the above results and determine the highest-level risk of all five categories. Overall project risk level is determined by the highest risk rating. Decisions to accept risks must be made at a level equal to the degree of risk. Project and Program Managers and Commanders must weigh the risks against the benefits of performing an activity

[Note : Recommend the following be utilized in lieu of tables above.]

<b>Health and Safety</b>	<b>Severity</b>			
	<b>Catastrophic</b>	<b>Critical</b>	<b>Marginal</b>	<b>Negligible</b>
<b>Probability</b>	Death or permanent total disability	Permanent partial disability, temp.total disability > 3 months	Minor injury, lost workday accident	First aid or minor medical treatment
<b>Frequent</b> Occurs often, continuously experienced	Extremely High Risk	Extremely High Risk	High Risk	Moderate Risk
<b>Occasional</b> Occurs several times	Extremely High Risk	High Risk	Moderate Risk	Low Risk
<b>Likely</b> Occurs sporadically	High Risk	High Risk	Moderate Risk	Low Risk
<b>Seldom</b> Unlikely, but could occur at some time	High Risk	Moderate Risk	Low Risk	Low Risk

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<b>Unlikely</b> Can assume it will not occur	Moderate Risk	Low Risk	Low Risk	Low Risk
<b>Scope</b>	<b>Severity</b>			
	<b>Catastrophic</b>	<b>Critical</b>	<b>Marginal</b>	<b>Negligible</b>
<b>Probability</b>	Project end item is effectively useless	Scope change unacceptable to customer	Minor areas of scope are affected	Scope change barely noticeable
<b>Frequent</b> Occurs often, continuously experienced	Extremely High Risk	Extremely High Risk	High Risk	Moderate Risk
<b>Occasional</b> Occurs several times	Extremely High Risk	High Risk	Moderate Risk	Low Risk
<b>Likely</b> Occurs sporadically	High Risk	High Risk	Moderate Risk	Low Risk
<b>Seldom</b> Unlikely, but could occur at some time	High Risk	Moderate Risk	Low Risk	Low Risk
<b>Unlikely</b> Can assume it will not occur	Moderate Risk	Low Risk	Low Risk	Low Risk
<b>Quality</b>	<b>Severity</b>			
	<b>Catastrophic</b>	<b>Critical</b>	<b>Marginal</b>	<b>Negligible</b>
<b>Probability</b>	Project end item is effectively unusable	Quality reduction unacceptable to customer	Quality reduction requires customer approval	Quality degradation barely noticeable
<b>Frequent</b> Occurs often, continuously experienced	Extremely High Risk	Extremely High Risk	High Risk	Moderate Risk
<b>Occasional</b> Occurs several times	Extremely High Risk	High Risk	Moderate Risk	Low Risk
<b>Likely</b> Occurs sporadically	High Risk	High Risk	Moderate Risk	Low Risk

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<b>Seldom</b> Unlikely, but could occur at some time	High Risk	Moderate Risk	Low Risk	Low Risk
<b>Unlikely</b> Can assume it will not occur	Moderate Risk	Low Risk	Low Risk	Low Risk
<b>Schedule</b>	<b>Severity</b>			
	<b>Catastrophic</b>	<b>Critical</b>	<b>Marginal</b>	<b>Negligible</b>
<b>Probability</b>	>20% overall project schedule slippage	10-20% schedule slippage	5-10% schedule slippage	Insignificant schedule slippage
<b>Frequent</b> Occurs often, continuously experienced	Extremely High Risk	Extremely High Risk	High Risk	Moderate Risk
<b>Occasional</b> Occurs several times	Extremely High Risk	High Risk	Moderate Risk	Low Risk
<b>Likely</b> Occurs sporadically	High Risk	High Risk	Moderate Risk	Low Risk
<b>Seldom</b> Unlikely, but could occur at some time	High Risk	Moderate Risk	Low Risk	Low Risk
<b>Unlikely</b> Can assume it will not occur	Moderate Risk	Low Risk	Low Risk	Low Risk
<b>Cost</b>	<b>Severity</b>			
	<b>Catastrophic</b>	<b>Critical</b>	<b>Marginal</b>	<b>Negligible</b>
<b>Probability</b>	>20% cost increase	10-20% cost increase	5-10% cost increase	Insignificant cost increase
<b>Frequent</b> Occurs often, continuously experienced	Extremely High Risk	Extremely High Risk	High Risk	Moderate Risk

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<b>Occasional</b> Occurs several times	Extremely High Risk	High Risk	Moderate Risk	Low Risk
<b>Likely</b> Occurs sporadically	High Risk	High Risk	Moderate Risk	Low Risk
<b>Seldom</b> Unlikely, but could occur at some time	High Risk	Moderate Risk	Low Risk	Low Risk
<b>Unlikely</b> Can assume it will not occur	Moderate Risk	Low Risk	Low Risk	Low Risk
<b>Complete the following if greater than Low Risk.</b>				
Risk:				
Description:				
Cause:				
Activities Affected:				
Impact on Project Objectives:				
Risk Owner & Responsibility:				
Agreed Response to Risk:				
Expected Result of Response:				

**Note:** Unnecessary risk can be as great a hindrance to project completion as any other factor. The levels at which USACE risk decisions can be made are: E (extremely high)- division commander; H (high)- district commander; M (moderate)- program manager; and L (low)- project manager. In all cases, the benefits of taking the risk must be greater than the possible consequences.

- Establish Risk Control procedures for activities that are identified as either M moderate, H high, and E extremely high. Determine and document action(s) required reducing or eliminating hazards and risks. Risk Control Response - This information could be displayed as follows:

Risk	Description	Cause	WBS Item Affected	Impact on Project Objectives	Risk Owner and Responsibility	Agreed Response to Risk	Expected Result of Response

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**Note:** Controls may be as simple as referencing an SOP or conducting a job-site briefing.

- Risk Monitoring is conducted during the Project Execution & Control Phase. See *Project Execution and Control – PROC3000[PROC3000]* and *Change Management – PROC3010[PROC3010]* processes, as well as *Safety and Occupational Health Plan – REF8016[REF8016]* and *Quality Management Plan – REF8008[REF8008]*.

The following flowchart depicts the phases of the risk management process.: **[Note: Request flowchart be made larger to make it easier to read.]**

