

## PROCEDURES Risk Assignment

### INTRODUCTION

frESHTRK is primarily used to document the observation and facilitate the resolution of ES&H issues. Experience has shown that the number and nature of these issues are such that they cannot all be addressed rapidly and completely using available resources. Therefore, it is prudent first to address those presenting the greatest risk. This Chapter describes procedures for assigning risk values to projects and frESHTRK findings and for applying these values toward the control of hazards. In addition, this risk assignment methodology may also be used in the implementation of FESHM [Chapters 2010](#) and [8070](#).

### DEFINITIONS

Hazard Severity - An assessment of the worst potential consequence, defined by degree of injury, occupational illness, environmental impact, or property damage that is likely to occur as the result of a deficiency.

Mishap Probability - The probability that a hazard will result in a mishap, based on an assessment of such factors as location, exposure, and affected population.

Risk Assessment Code - The degree of risk associated with a deficiency that combines the elements of hazard severity and mishap probability.

### SPECIAL RESPONSIBILITIES

Assignment of risk associated with a finding is the responsibility of the division/section performing the review. ES&H Section serves this function for reviews performed by organizations external to the Lab.

## PROCEDURES

1. Risk assessment - Each identified/validated hazard that cannot be immediately corrected shall be entered into frESHTRK and assigned a Risk Assessment Code by the division/section leading the associated review. The process for assigning Risk Assessment Codes is described in the Technical Appendix to this Chapter. This assures that concurrence is achieved between the assessing organization and the assessed division/section/center regarding the assignment of Risk Assessment Codes.
2. Phased implementation - The Risk Assessment Codes identify five levels of risk (see below). In general, findings should be addressed in order of highest to lowest risk. Divisions/sections/centers may wish to establish specific internal guidelines for addressing this matter. However, it is recognized that there may be occasional exceptions to dealing with deficiencies in rank order due to resource limitations and scheduling difficulties. Whenever a Risk Assessment Code of 1 or 2 is entered, sends an automatic e-mail message to the ES&H Director and the Chief Operating Officer, as well as the division/section/center head(s) and senior safety officer(s) of the responsible organization(s). Immediate measures shall be taken to reduce the risk associated with such findings.

Risk assessment code	Adjective rating
1	Critical
2	Serious
3	Moderate
4	Minor
5	Negligible

3. Risk assignment changes - Senior Safety Officers and division/section/center heads are free to change risk assignments for findings resulting from internal division/section assessments. However, changes to the risk assignments for external findings require concurrence from the ES&H Director. Such revisions may be sought because of disagreement with reviewer-assigned values or because of actual changes in the level of risk (e.g., due to progress in addressing the finding). Each request to change a risk assignment should include the finding number, a justification, and the name of a person most familiar with the risk associated with the finding. The changes shall be communicated in writing to the responsible division/section/center head(s).

4. Qualifications to perform risk assignment - Personnel conducting ES&H-related reviews should be familiar with the Technical Appendix to this Chapter.

## TECHNICAL APPENDIX

### frESHTRK PROCEDURES DETERMINING THE RISK ASSESSMENT CODE FOR A FINDING

1. Estimate the Hazard Severity as High, Medium, Low, or Minimal using Table 1 below. Consider the worst potential consequence that is likely to occur as a result of the deficiency.
  
2. Estimate the Mishap Probability as A, B, C, or D using Table 2 below. This should be based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and affected population. Other circumstantial factors that should be considered include the following:
  - Number of workers exposed.
  - Frequency of exposure or duration of employee overexposure to contaminants.
  - Employee proximity to the hazardous conditions.
  - Use of appropriate personal protective equipment (PPE).
  - Medical surveillance program.
  - Other pertinent working conditions.
  
3. Use Table 3 to determine the Risk Assessment Code from the Hazard Severity and Mishap Probability estimated above. For example, a Hazard Severity of Medium and a Mishap Probability of C will yield a Risk Assessment Code of 3.

**TABLE 1.  
HAZARD SEVERITY.**

<b>Severity</b>	<b>People</b>	<b>Environment</b>	<b>Compliance</b>	<b>Property</b>
<b>High</b>	Death from injury or illness; injuries involving permanent disability; or chronic irreversible illnesses.	Permanent or long-term loss of a public resource (e.g., drinking water, air, stream, or river).	N/A	Loss of a facility.
<b>Medium</b>	Injuries or temporary, reversible illnesses resulting in hospitalization of a variable but limited period of disability.	Seriously impair the functioning of a public resource.	Major noncompliance that exposes the Lab to significant potential fines and penalties.	Major property damage.
<b>Low</b>	Injuries or temporary, reversible illnesses not resulting in hospitalization and requiring only minor supportive treatment.	Isolated and minor, but measurable, impact(s) on some component(s) of a public resource.	Major noncompliance with the Lab's Work Smart set.	Minor property damage.

<b>Minimal</b>	N/A	N/A	Marginal noncompliance with the Lab's Work Smart set.	N/A
----------------	-----	-----	---	-----

**TABLE 2.  
MISHAP PROBABILITY.**

<b>Probability</b>	<b>Description</b>
<b>A</b>	Likely to occur immediately or within a short period of time
<b>B</b>	Probably will occur in time.
<b>C</b>	May occur in time.
<b>D</b>	Unlikely to occur.

**TABLE 3.  
RISK ASSESSMENT CODE.**

	<b>Probability</b>			
<b>Severity</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>High</b>	1	1	2	3
<b>Medium</b>	1	2	3	4
<b>Low</b>	2	3	4	5
<b>Minimal</b>	3	4	5	5