

# RISK ASSESSMENTS 101



## What is a Risk Assessment?

A risk assessment is a proven way to manage the many hazards associated with aggregate operations. A risk assessment is a systematic process conducted by a competent person or persons who evaluate a task, identify potential hazards, analyze risks, control those risks, and document the assessment and corrective actions taken. A risk assessment may also be called a Job Safety Analysis (JSA) or Job Hazard Analysis (JHA). Keep in mind, the practice of thinking before you act is most important, and a risk assessment does not always have to be a significant undertaking in paperwork. While this is appropriate in some circumstances, other times, a quick field risk assessment is a good option.

**HAZARD =**  
Anything that can cause harm

**RISK =**  
The chance a hazard will cause harm

## Why Conduct a Risk Assessment?

Risk assessments help workers evaluate tasks, identify risks, and control those risks before beginning work to minimize the likelihood of a serious injury or fatality occurring. They are also useful for management when evaluating whole systems. Risk assessments are valuable tools that help methodically think through processes, jobs, and approaches in a forward-thinking and proactive manner, rather than a reactive one, to prevent harm. They allow management to reduce risks through policies and procedures, training on a specific hazard and providing the proper PPE to protect the worker.

## Hazard vs. Risk

We often use hazard and risk interchangeably, and while the concepts are related, they are distinct. A risk assessment first identifies hazards, then looks at the likelihood of an incident occurring and the severity. For example, moving machine parts are a hazard, but the risk is minimal when properly guarded.

## Evaluating Risks

Using a Risk Assessment Matrix can help evaluate how risky a hazard is based on its probability and severity. For more information on Risk Assessment Matrices, see additional resources on the Health & Safety page at NSSGA.org.

RISK ASSESSMENT MATRIX		LIKELIHOOD				
		VERY UNLIKELY	UNLIKELY	POSSIBLE	LIKELY	VERY LIKELY
SEVERITY	CATASTROPHIC (e.g. fatal)	Moderate	Moderate	High	Critical	Critical
	MAJOR (e.g. Permanent Disability)	Low	Moderate	Moderate	High	Critical
	MODERATE (e.g. Hospitalization / Short- or Long-Term Disability)	Low	Moderate	Moderate	Moderate	High
	MINOR (e.g. first aid)	Very Low	Low	Moderate	Moderate	Moderate
	SUPERFICIAL (e.g. no treatment needed)	Very Low	Very Low	Low	Low	Moderate





# How to Conduct a Risk Assessment



## STEP ONE: *Identify hazards*

- ❑ What physical hazards are there (e.g., lifting, slip/fall, overhead, electrical, low lighting, heights)?
- ❑ What behavioral/human hazards are there (e.g., fatigue, inexperience, distraction)?

## STEP TWO: *Determine who could be harmed and how*

- ❑ Who is involved with the task and what training have they had?
- ❑ Based on hazards identified in step 1, how could they be hurt or exposed to the hazard(s)?

## STEP THREE: *Evaluate the risks*

Use the Risk Assessment Matrix for each hazard identified:

- ❑ What is the probability of harm occurring?
- ❑ How severe would the harm be?

## STEP FIVE: *Record & evaluate*

- ❑ How effective are the controls?
- ❑ Did we record the risk assessment?
- ❑ Did adequate personnel sign off?

## STEP FOUR: *Take action*

- ❑ What measures should be taken to eliminate or control the hazards?
- ❑ Use the hierarchy of controls. In this order, ask, can we:
  1. Eliminate the hazard?
  2. Substitute for a safer alternative?
  3. Use an engineering control?
  4. Use an administrative control?
  5. Use PPE?

*Repeat if needed, applying lessons learned*

