



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Course

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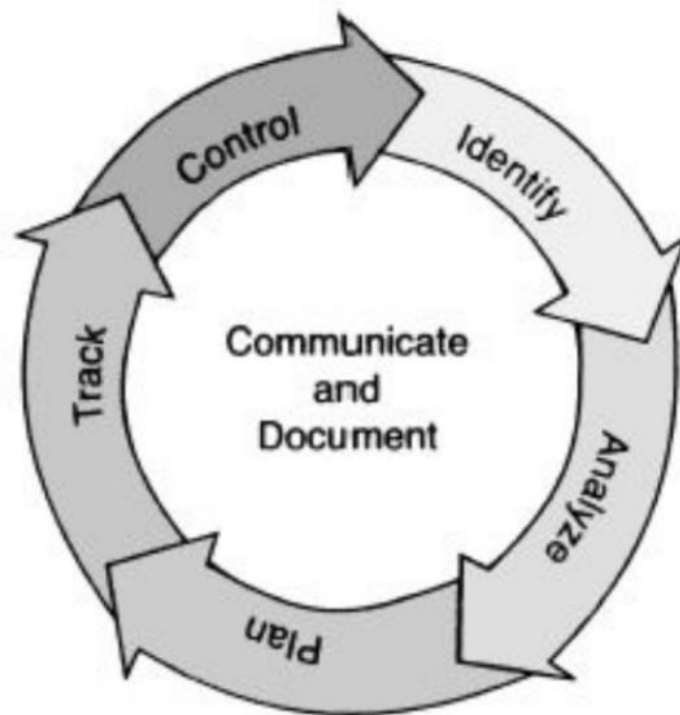
Advanced project Management

Development and Implementation of Risk Assessment System

Introduction:

Our company's facilities involving hazardous operations subject to process safety management regulations have implemented a range of programs to identify and mitigate the risk of fire, explosion and accidental releases of hazardous materials, including: hazard & operability studies; process hazard analyses, standard operating procedures, training, mechanical integrity assessments, management of change procedures, inspections, pre-startup safety reviews, risk assessments and audits. These programs and protocols are consistent with international regulations and standards (e.g. OSHA PSM and Seveso) and industry best practices. Based on the best practice in other companies and the necessity to identify the risks in all company facilities and activities, we started to develop the continuous risk management.

Risk management is the process of identifying, assessing and controlling threats to an organization's employees, capital and earnings.



A part of our risk management program, we developed a new system named risk assessment.

Literature Review:

A risk assessment is a thorough look at your workplace to identify those things, situations, processes, etc. that may cause harm, particularly to people. After identification is made, you analyze and evaluate how likely and severe the risk is. When this determination is made, you can next, decide what measures should be in place to effectively eliminate or control the harm from happening. [1]

Risk assessments are very important as they form an integral part of an occupational health and safety management plan. They help to:

- Create awareness of hazards and risk.
- Identify who may be at risk (employees, visitors, contractors, the public, etc.).
- Determine whether a control program is required for a particular hazard.
- Determine if existing control measures are adequate or if more should be done.
- Prevent injuries or illnesses, especially when done at the design or planning stage.
- Prioritize hazards and control measures.

The aim of the risk assessment process is to evaluate hazards, then remove that hazard or minimize the level of its risk by adding control measures, as necessary. By doing so, you have created a safer and healthier workplace.

The goal is to try to answer the following questions:

- a. What can happen and under what circumstances?
- b. What are the possible consequences?
- c. How likely are the possible consequences to occur?
- d. Is the risk controlled effectively, or is further action required?

There may be many reasons a risk assessment is needed, including:

- Before new processes or activities are introduced.
- Before changes are introduced to existing processes or activities, including when products, machinery, tools, equipment change or new information concerning harm becomes available.
- When hazards are identified.

Methodology:

My role in this project was the department leader. To follow -up our department's data, digitalize all the paper work and to update any issues using conduction of the template.

Referring to the Literature reviews, risk assessment developed and trucking system to truck all assessment and its progress, approval and reviews.

Effective risk management plans look beyond improving one area of the workplace. They encompass all aspects of an organisation including; safety, financial, business and environmental risk management.

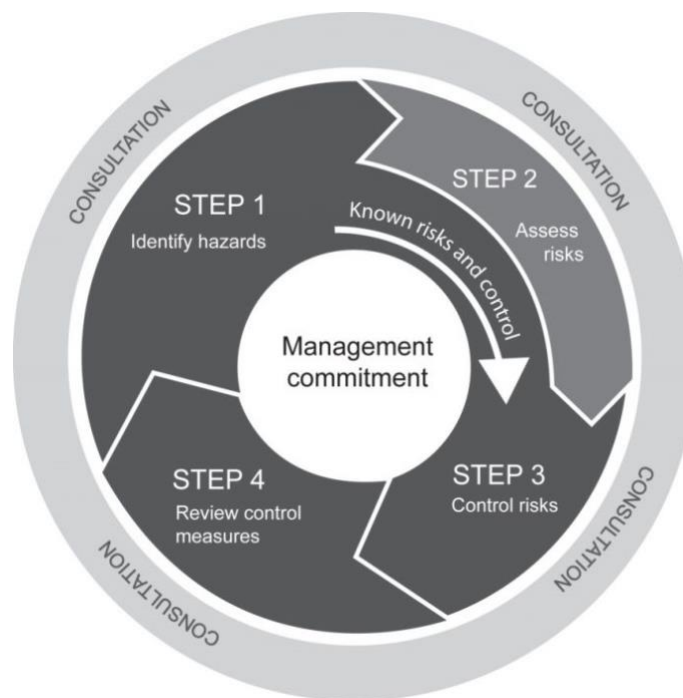
there are Four Steps in the risk management process:

Step One: Identify risks

Step Two: Assess risks

Step Three: Control risks

Step Four: Review control measures



A risk management plan protects a company's resources

Risk management plans don't simply identify risks, they make it possible for organisations to prioritise them. As previously discussed, Step Two of the risk management process involves assessing the risks (see diagram above). This is often done on a likelihood/impact matrix to help identify which resources are a priority and how quickly the risks need to be responded to.

Here's an example of a risk matrix:

		Impact				
		Trivial	Minor	Moderate	Major	Extreme
Probability	Rare	Low	Low	Low	Medium	Medium
	Unlikely	Low	Low	Medium	Medium	Medium
	Moderate	Low	Medium	Medium	Medium	High
	Likely	Medium	Medium	Medium	High	High
	Very likely	Medium	Medium	High	High	High

If an incident occurred in the organisation that impacted this resource, it may have a detrimental impact on the overall business processes and performance. Let's assume the probability of the risk occurring is moderate. By looking at the matrix we can see this is a 'high' risk, priority area. A business would apply the matrix to all risk identified in Step One. Identifying a course of action for each risk saves the company time, money, and physical resources.

As an example, consider this simple risk matrix. Table 1 shows the relationship between probability and severity.

Table 1: Risk matrix

Probability	High			
	Med.			
	Low			
		Low	Med.	High
		Severity		

Severity ratings in this example represent:

- High: major fracture, poisoning, significant loss of blood, serious head injury, or fatal disease
- Medium: sprain, strain, localized burn, dermatitis, asthma, injury requiring days off work
- Low: an injury that requires first aid only; short-term pain, irritation, or dizziness

Probability ratings in this example represent:

- High: likely to be experienced once or twice a year by an individual
- Medium: may be experienced once every five years by an individual
- Low: may occur once during a working lifetime

The cells in Table 1 correspond to a risk level, as shown in Table 2.

Table 2: Risk Ratings

Description	Colour Code
Immediately Dangerous	
High Risk	
Medium Risk	
Low Risk	
Very Low Risk	

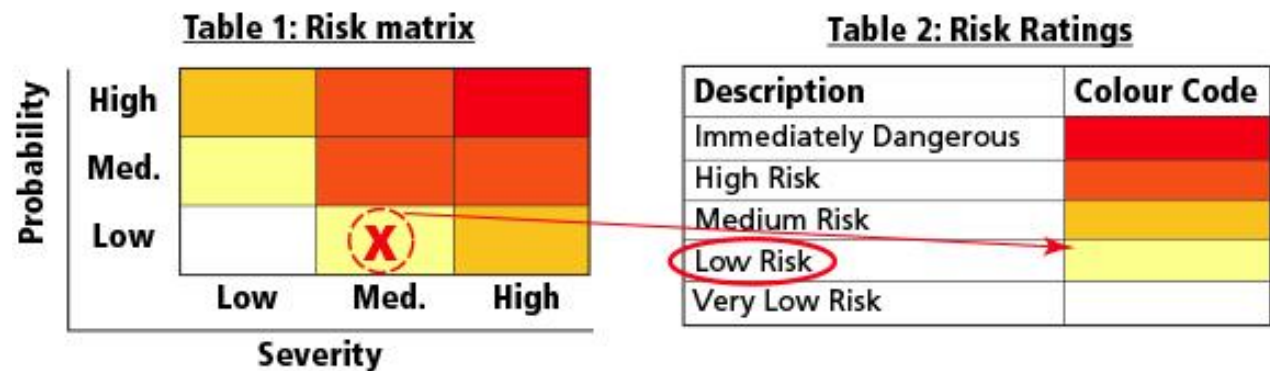
These risk ratings correspond to recommended actions such as:

- Immediately dangerous: stop the process and implement controls
- High risk: investigate the process and implement controls immediately
- Medium risk: keep the process going; however, a control plan must be developed and should be implemented as soon as possible
- Low risk: keep the process going, but monitor regularly. A control plan should also be investigated
- Very low risk: keep monitoring the process

Let's use an example: When painting a room, a step stool must be used to reach higher areas. The individual will not be standing higher than 1 metre (3 feet) at any time. The assessment team reviewed the situation and agrees that working from a step stool at 1 m is likely to:

- Cause a short-term injury such as a strain or sprain if the individual falls. A severe sprain may require days off work. This outcome is similar to a medium severity rating.
- Occur once in a working lifetime as painting is an uncommon activity for this organization. This criterion is similar to a low probability rating.

When compared to the risk matrix chart (Table 1), these values correspond to a low risk.



The workplace decides to implement risk control measures, including the use of a stool with a large top that will allow the individual to maintain stability when standing on the stool. They also determined that while the floor surface is flat, they provided training to the individual on the importance of making sure the stool's legs always rest on the flat surface. The training also included steps to avoid excess reaching while painting. [2]

Results and Discussion:

Risk management is an essential part of effective business planning and organisations are expected to provide a safe environment for workers. Work Health and Safety (WHS) regulations often play a instrumental part in risk management. WHS governs the regulations behind what's an acceptable practice and what is not.

A specific and detailed risk management system is a vital investment for all businesses.

We're going to cover four reasons about why risk management is so important:

- Risk assessments save your business money
- Risk assessments reduce the chance of injury in the workplace
- A risk management plan protects a company's resources
- A risk management plan improves a company's brand image

Businesses invest in risk management systems to mitigate the risk of spending thousands of dollars in financial, legal and internal costs. Let's look at how businesses use risk assessments to save money each year.

Here are the main cost benefits of risk assessments:

#1. Risk assessments reduce the likelihood of a workplace accident – Safety audits and inspections help businesses identify areas to improve work processes, signage, or training.

#2. Risk assessments reduce and prevent fines, lawsuits and penalties from non compliance issues – Every organisation must comply by their State's WHS legislation.

#3. Risk assessments show employees the business cares about their safety

– Your staff are a valuable business resource. Provide them with more knowledge and responsibility to improving your safety management system for higher morale by showing you trust them. [3]

References:

[1] Canadian Centre for Occupational Health & Safety, CCOHS, February 15, 2017

[2] BUSINESS-BASICS website, Mark, 29 March, 2013

[3] Kevin E. Peterson, in The Professional Protection Officer, 2010