

A word cloud centered around the word 'RISK', which is the largest and most prominent. Below 'RISK' is the word 'MANAGEMENT' in a large, bold, black font. To the right of 'RISK' is the word 'ASSESSMENT' in a large, bold, red font. Other words in various sizes and colors (red, black, grey) are scattered around, including 'ANALYSIS', 'BUSINESS', 'PROCESS', 'EVALUATION', 'TREATMENT', 'SCOPE', 'INDEX', 'EVENT', 'OBJECTIVE', 'PROBABILITY', 'RESOURCE', 'KNOWLEDGE', 'REDUCTION', 'IMPACT', 'SHARING', 'OPPORTUNITY', 'UNCERTAIN', 'MONITOR', 'PLAN', 'STANDARD', 'CONTROL', 'IMPLEMENTATION', 'PRIORITY', 'CONTEXT', 'RETENTION', 'METHOD', 'COST', 'AVOIDANCE', 'PROJECT', 'STRATEGY', 'IDENTIFICATION', 'SOLUTION', and 'BUSINESS'. The words are arranged in a way that they appear to be floating or falling from the top, with some words like 'MANAGEMENT' and 'ASSESSMENT' being more grounded at the bottom.

# **SBG O&M Hazard Identification, Risk Assessment and Control Procedure**

## **Purpose**

To ensure that there is a formal process for hazard identification, risk assessment and control to effectively manage SBG O&M workplace and safety hazards within the SBG O&M Projects

A key requirement of managing risks in the SBG O&M workplace is consulting with workers affected by a health and safety matter. Workers should be involved in the hazard identification, risk assessment and risk control processes. Where workers are represented by a Health and Safety Representative (HSR), this HSR must be involved in the consultation process. SBG O&M workplace hazard identification, assessment and control is an on-going process. It should be undertaken at various times, including:

- If it has not been done before.
- When a hazard has been identified
- When a change to the SBG O&M workplace may introduce or change a hazard. Such as when changes occur to the work equipment, practices, procedures or environment.
- As part of responding to a SBG O&M workplace incident, even where an injury has not occurred.
- Where new information about a risk becomes available or concerns about a risk are raised by workers
- At regularly scheduled times appropriate to the SBG O&M workplace.

It is often more effective and easy to eliminate hazards if risk management approaches used at the planning and design stages for operations & maintenance, processes and places for work.

The following procedure for risk management (involving hazard identification, risk assessment and control) is a practical guide for helping make all SBG O&M SBG O&M workplaces safer for workers, staff, contractors, and visitors. It will help both management and workers, through consultation, to comply with the WHS regulations. These regulations require identifying, assessing and controlling hazards in the SBG O&M workplace with the aim of eliminating hazards or minimising hazards, doing far as reasonably practicable. Recording

risk management activities, including risk assessments and consultation processes is required.

These procedures will assist in:

- Finding hazards in SBG O&M SBG O&M workplaces.
- Assessing the risks that may result from these hazards.
- Determining control measures to eliminate or minimise the level of the risks.
- Monitoring and reviewing the effectiveness of control measures.

## Definitions

**Hazard:** Anything (e.g. condition, situation, practice, behaviour) that has the potential to cause harm, including injury, disease, death, environmental, property and equipment damage. A hazard can be a thing or a situation.

**Hazard Identification:** This is the process of examining each work area and work task for the purpose of identifying all the hazards which are “inherent in the job”. Work SBG O&M areas include but are not limited to machine workshops, substations, office SBG O&M areas, agricultural, stores and transport, maintenance and grounds. Tasks can include (but may not be limited to) using screen based equipment, audio and visual equipment, industrial equipment, hazardous substances and/or training/dealing with employees, driving a vehicle, dealing with emergency situations, operations & maintenance. This process is about finding what could cause harm in work task or area.

**Risk:** The likelihood, or possibility, that harms (injury, illness, death, damage etc.) may occur from exposure to a hazard.

**Risk Assessment:** Is defined as the process of assessing the risks associated with each of the hazards identified so the nature of the risk can be understood. This includes the nature of the harm that may result from the hazard, the severity of that harm and the likelihood of this occurring.

**Risk Control:** Taking actions to eliminate health and safety risks so far as is reasonably practicable. Where risks cannot be eliminated, then implementation of control measures is required, to minimise risks as far as is reasonably practicable. A hierarchy of controls has been developed and is described below to assist in selection of the most appropriate risk control measure/s.

**Monitoring and Review:** This involves on-going monitoring of the hazards identified, risks assessed and risk control processes and reviewing them to make sure they are working effectively.

## Responsibilities

Effective risk management requires the commitment from to WHS from

It is the responsibility of all managers and supervisors to ensure that this policy is fully implemented in their area(s) of control and to consult with workers as part of undertaking the hazard identification, risk assessment and control process. It is the responsibility of SBG O&M workers to cooperate and comply with this policy. This includes providing effective and constructive information and feedback to aid the risk management process.

Officers have a responsibility to ensure that the SBG O&M areas under their control are complying with legislative requirements. This includes the Officer understanding the hazards and risks associated with their operations and ensuring that appropriate resources and processes are in place to eliminate or minimise these risks.

## Risk Assessment Procedure

The risk assessment procedure can best be illustrated in the following way.



## **Step 1: Identify Hazards**

WHS legislation in Kingdom of Saudi Arabia requires that SBG O&M in consultation with workers identify all potentially hazardous things or situations that may cause harm. In general, hazards are likely to be found in the following;

- Physical work environment,
- Equipment, materials or substances used,
- Work tasks and how they are performed,
- Work design and management

In order to identify hazards the following are recommended:

(i) Past incidents/accidents are examined to see what happened and whether the incident/accident could occur again.

(ii) Employees be consulted to find out what they consider are safety issues,

I.e. ask workers about hazards near misses they have encountered as part of their work. Sometimes a survey or questionnaire can assist workers to provide information about SBG O&M workplace hazards.

(iii) Work SBG O&M areas or work sites be inspected or examined to find out what is happening now. Identified

Hazards should be documented to allow further action. The work environment, tool and equipment as well as tasks and procedures should be examined for risks to WHS.

(iv) Information about equipment (e.g. site, operating instructions) and Material Safety Data Sheets

be reviewed to determine relevant safety precautions.

(v) Welcome creative thinking about what could go wrong takes place, i.e. what hazardous event could take place here?

## **Step 2: Assess Risks**

Risk assessment involves considering the possible results of an employee being exposed to a hazard and the likelihood of this occurring. A risk assessment assists in determining:

- How severe a risk is
- Whether existing control measures are effective
- What action should be taken to control a risk
- How urgently action needs to be taken.

A risk assessment should include:

(i) Identify factors that may be contributing to the risk,

(ii) Review health and safety information that is reasonably available from an authoritative source and is relevant to the particular hazard,

(iii) **Evaluation of how severe the harm could be.** This includes looking at the types of injuries/illnesses/harm/damage that can

result from the hazard, the number of employees exposed, possible chain effects from exposure to this hazard.

(iv) **Evaluation of how a hazard may cause harm.** This includes examining how work is completed, whether existing control measures are in place and whether they control the harm, looking at infrequent/abnormal situations as well as standard operating situations. A chain of events related to a risk may need to be considered.

(v) **Determining the likelihood of harm occurring.** The level of risk will increase as the likelihood of harm and its severity increases. The likelihood of harm occurring may be affected by how often the task is completed, in what conditions, how many employees are exposed to the hazard and for what duration.

(vi) Identify the actions necessary to eliminate or control the risk; and

(vii) Identify records that it is necessary to keep to ensure that the risks are eliminated or controlled.

Other risk factors should also be identified as they may contribute to the risk: including

(viii) The work premises and the working environment, including their layout and condition,

(ix) The capability, skill, experience and age of employees ordinarily undertaking work,

(x) The systems of work being used; and



(xi) The range of reasonably foreseeable conditions.

The process of assessing the risk is undertaken by reviewing any available information about the hazard (e.g. legislation, OHSAS 18001, Industry Code of Practice or guidance material about the hazard) and by using SBG O&M personal work experience about what sort harm the hazard could create and how likely this would be to happen. When determining how likely it is that a person could be exposed to a hazard, consideration needs to be given to these “exposure factors”:

- (i) Whether there are any other risk factors that increase the likelihood of exposure?
- (ii) How often the person is exposed (frequency)?
- (iii) or how long is the person exposed (duration)?
- (iv) How many employees are exposed?
- (v) The likely dose to which the person is exposed?
- (vi) Any legislative or recommended exposure levels required by statutory authorities.

At Saudi Arabia, SBG O&M, we require managers and supervisors to identify hazards, assess the risks of harm resulting from exposure to the hazards and set a priority for corrective action by using a clearly laid out process. The process is as follows:

- (i) Identified hazards are placed on the **Risk Assessment and Control Form**.
- (ii) A **Risk Category Table** is then used to categorise the type of risk to the SBG O&M

#### RISK CATEGORY TABLE

Risk Category	Description
SBG O&M workplace  (logistics)	Employees load by work assignments and site activities, Staff employees ratios, training loads, induction processes , employees progression and retention rates , mode of delivery, changes of employees profile and industry demands, work assignments and unit coordination capacity and load of SBG O&M workplaces, levels of administrative and technical support for SBG O&M workplace work assignments and services
SBG O&M workplace  (Work assignments)	Quality/ standard of SBG O&M workplace program/ work assignments contents, planning strategy for work assignments offerings, approvals and monitoring process for work assignments and services
Behaviour	SBG O&M  Conservative (opportunities lost), observation of policies and procedures.
Environmental	Water, soil, air contamination, asbestos, waste management, incidents causing damages, injury/ death, environmentally triggered emergencies.
Financial	Reductions in income, liquidity, financial loss, insurances, debt, budget  overturns,
Infrastructure	SBG O&M, buildings, roads, pathways, utilities

	(Electricity, water).
International	Overseas ventures/ reputation/ program disaster, relationships with Overseas regulatory organisations.
Legal	Contracts and agreements, high profile litigation - financial and reputational impact.
Legislation	Breach, financial penalty/ impact on reputation, laws, regulations, codes, affecting the SBG O&M.
Organisation	Strength of policies and procedures, planning, staffing, morale, training, ethical culture, leadership and management.
Technology	Strategic direction of IT, reliance on ecommerce/ email/ internet, employees Records system, library.

(iii)The **Risk Ranking Matrix** is used to assess the likelihood and the severity or consequences of each hazard and to give it a “risk rating”.

### **RISK RATING MATRIX**

	Likelihood (L)				
Consequences (C)	Rare	Unlikely	Possible	Very Likely	Certain to Occur
Catastrophic	moderate	moderate	high	critical	critical

<b>Major</b>	Low	moderate	moderate	high	critical
<b>Moderate</b>	Low	moderate	moderate	moderate	high
<b>Minor</b>	very low	low	moderate	moderate	moderate
<b>Insignificant</b>	very low	very low	low	low	moderate

<b>Consequences</b>  (C)	<b>How Severely Could An employee be Hurt?</b>				
Catastrophic	Death or permanent disability				
Major	Serious injury, hospital treatment required				
Moderate	Injury requiring medical treatment and some lost time				
Minor	Minor injury, first aid only required				
Insignificant	Injuries requiring no treatment or first aid				
<b>Likelihood</b>  (L)	<b>How Likely are the Consequences?</b>				
Certain to Occur	Expected to occur in most circumstances				
Very Likely	Will probably occur in most circumstances				
Possible	Might occur occasionally				
Unlikely	Could happen some time				
Rare	May happen only in exceptional circumstances				

## ACTIONS REQUIRED

Risk Level Rating	Required Action
Critical	<b>Immediate action needed.</b> Access to the hazard should be restricted until the risk can be lowered
High	Action needed quickly (within 1-2 days). The task should not proceed unless the risk is assessed and control options selected based on the Hierarchy of Controls.
Moderate	Action required this week to eliminate or minimise the risk using the Hierarchy of Controls.
Low	Action required within a reasonable timeframe (2-4 weeks) eliminating or minimising the risk using the Hierarchy of Controls.
Very Low	Risk to be eliminated or lowered when possible using the Hierarchy of Controls.

### Step 3: Controlling Risks

Once a risk rating is determined, each hazard must have its existing risk control measures evaluated using the Evaluation of Control Effectiveness Table. This allows for determination of any additional requirement necessary.

#### EVALUATION OF CONTROL EFFECTIVENESS TABLE

Well Designed Control		Effectively Implemented?	
3	Needs improvement	3	Deficient ( <i>b</i> )
2	Adequate	2	Marginal
1	Strong	1	Effective

## **Step 4: Implement additional risk controls**

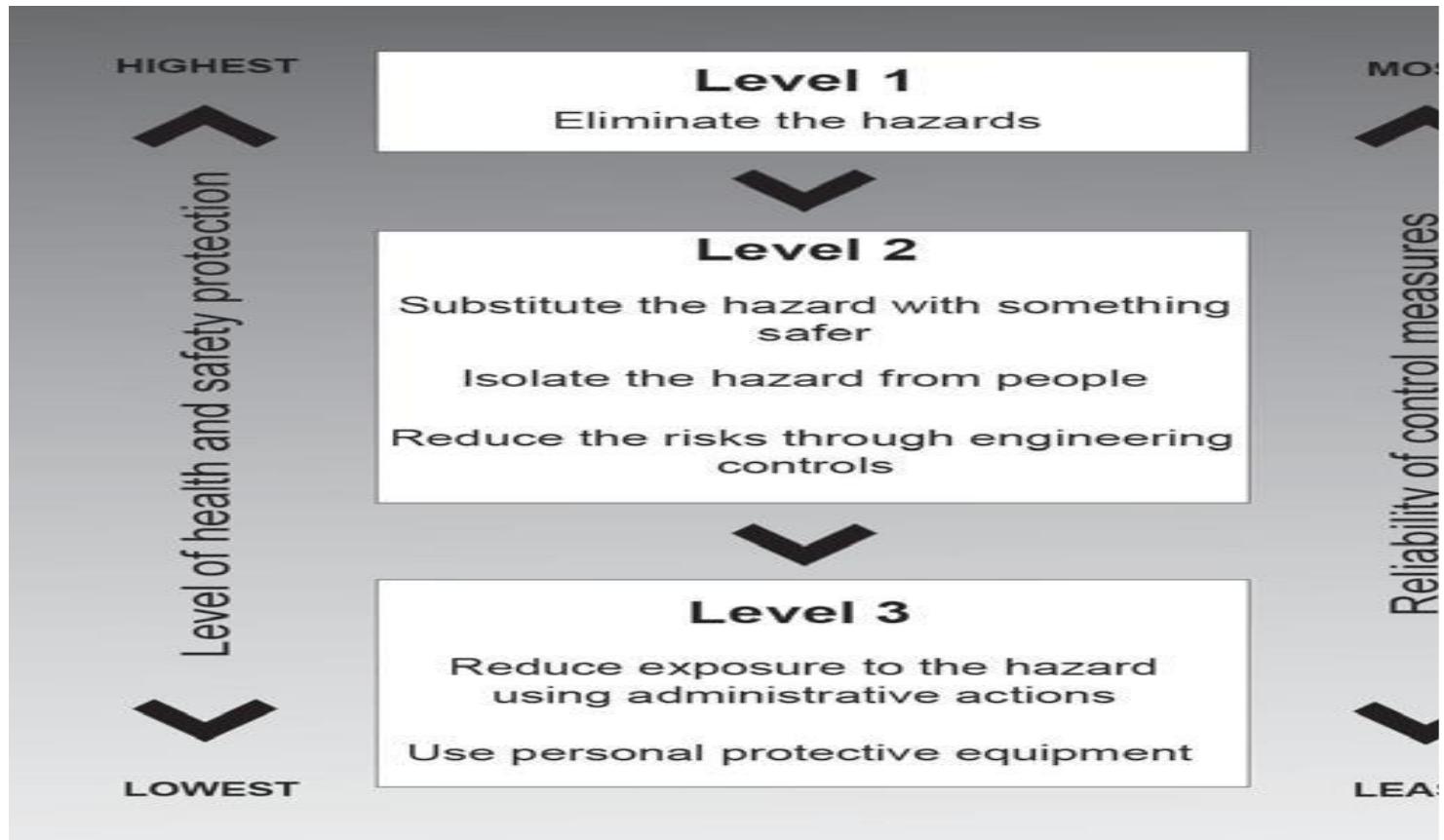
Having identified the hazards in SBG O&M SBG O&M workplace, assessed their risks and reviewed the existing controls, all hazards must be managed before employees are hurt, become ill or there is damage to site, property or the environment.

The management of risks in the SBG O&M workplace requires eliminating risks so far as reasonably practicable in the first instance. Where elimination is not possible, then risks should be minimised, so far as reasonably practicable.

All hazards that have been assessed should be dealt with in order of priority. The most effective control option/s should be selected to eliminate or minimise risks. The Hierarchy of Controls (see diagram below) ranks control options from highest level of protection and reliability to lowest. This should be used to determine the most effective control/s.



## HIERARCHY OF CONTROLS







## Level 1 Control Measures – Eliminate the Hazard

The most effective control measures eliminate the hazard and associated risks. This can be achieved through removing the hazard or selecting alternate operations & maintenance or equipment to eliminate the risk. If a hazard cannot be eliminated then risks can be minimised by lower control measures

## Level 2 Control Measures

These are used to minimise the risks and involve on or a combination of the following;

- (i) **Substitute the hazard**: substitute a substance, method or material to reduce the risk or the hazard
- (ii) **Isolate the hazard**: separate the hazard from the SBG O&M workplace or employees, For example;
  - a. Substation, or a laboratory kept locked except to an authorised person.
  - b. Lock out procedures on faulty equipment.
  - c. Appropriate guarding for machinery.
- (iii) **Use engineering controls**: modify existing machinery or site or Purchase different machinery or site to provide a physical solution. For example;
  - a. Trolleys, hoists or cranes.
  - b. Guard rails.

## Level 3 Control Measures

These are control options which should be considered last as they do not control the source of the hazard but rely on human behaviour or supervision and are therefore less effective. They include;

- (iv) **Administrative Procedures**: develop work methods or procedures to reduce the conditions of risk, for example:
  - a. Written Safe Operating Procedures
  - b. Job rotation to restrict hours worked on difficult jobs.
  - c. Staff trained in the correct operating procedures.



(v) **Use Personal Protective Equipment (PPE) and training in its use:**

Offer the lowest level of protection and should only be used as a last resort to deal with the hazard, where the hazard cannot be removed or reduced by any other means, for example:

- a. Handling of chemicals – gloves, safety glasses, aprons.
- b. Protecting eyes from flying particles.
- c. Protecting feet – safety boots.

Consultation with workers is required in the selection and implementation of control measure in the SBG O&M workplace.

Controls may need to be trialled to determine effectiveness and workers should be involved in the feedback process.

Each measure must have a designated person and date assigned for the implementation of controls. This ensures that all required safety measures will be completed and documented.

**Step 5: Monitor and Review**

Hazard identification, risk assessment and control are an on-going process. Therefore, regularly review the effectiveness of SBG O&M hazard assessment and control measures. Make sure that you undertake a hazard and risk assessment when there is a change to the SBG O&M workplace including when work systems, tools, machinery or equipment change. Provide additional supervision when new employees with reduced skill levels or knowledge are introduced to the SBG O&M workplace. The effectiveness of control measures can be checked through regular reviews as well as consultation with workers.