

Standard Operating Procedure

Title: Environmental, Health and Safety – Risk Management

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Document Owner

EHS Manager

Affected Parties

All Site colleagues

Purpose

The purpose of this SOP is to:

- Describe the risk management process of identifying EHS hazards, assessing risk, designing appropriate controls and reviewing the controls.
- Describe the steps to take and the tool that shall be used to undertake preliminary risk assessments (PRA).
- Outline the procedure for using the DR system for reporting EHS hazards that cannot be immediately and simply resolved by the observer.

Scope

A risk assessment approach should be used for the following processes and situations:

- Prior to conducting any maintenance or installation work
- In the design of new plant, equipment and processes
- Prior to making changes to processes and equipment
- During EHS workplace inspections
- When conducting safety audits of new plant and equipment
- Organising job rotation / changes to job design
- Housekeeping audits
- Post incident / accident analysis
- Prior to purchasing new plant, equipment and chemical substances.

The EHS DR system is used to ensure that all corrective actions arising from incidents, EHS hazard identification, EHS audits (Project, operational, EHS inspections) are documented, risk rated and tracked to ensure timely and effective risk treatment implementation.

EHS Team:	Leading EHS PRA's and provides advise on EHS issues Monitors progress of EHS deviations through the DR system.
All Employees:	Are required to report hazards, incidents and accidents immediately to their line manager and the EHS Team by use of the EHS Incident notification Form. If the hazard cannot be addressed immediately, employees are required to raise a EHS DR (DR2 see SOP QMS-035).
Area and Line	Are responsible for managing hazards in their area of responsibility.

Standard Operating Procedure

Title: Environmental, Health and Safety – Risk Management

- 1.1. **It is important to consider hazards, which may arise in all situations including:**
 - Transport
 - Installation of plant/equipment
 - Commissioning of plant /equipment
 - Normal operation
 - [Cleaning and line clearance](#)
 - Set up / change over / loading consumables / waste handling
 - Maintenance
 - Emergency / abnormal conditions
 - Following an accident or incident
- 1.2. **Form-445** shall be used by the EHS Committee to identify potential hazards in work area inspected.
- 1.3. The EHS Requirements specification includes a checklist for identifying hazards in new plant and equipment.
- 1.4. Potential hazards and control measures associated with maintenance, installation and process changes must be included in Change Control forms.
- 1.5. When reporting a EHS hazard, details of the hazard must be recorded in the Header Screen of the EHS DR (See [SOP QMS-035](#)).
- 1.6. The identification of hazards must be comprehensive, systematic and should consider the following:

The work environment:	The work organisation:	The plant, equipment, tools or substances used:
<ul style="list-style-type: none"> - Lighting - Noise levels - Access / egress and layout - Floors / surfaces - Use of PPE 	<ul style="list-style-type: none"> - Work flow - Job and task design - Job rotation - Rate of work - Shift arrangements - Competency of people using the plant - Carrying loads over distances - Safe working procedures. 	<ul style="list-style-type: none"> - Exposure to Toxic chemicals/gases - Noisy machinery - Generation of hazardous conditions due to pressurised content, electricity, radiation friction, vibration, fire, explosion, temperature, moisture, vapour, gases, dust, ice, hot or cold parts. - Control systems including guarding. - Stability - Material used for construction. - Tools and accessories - Task appropriateness for plant.

2. Assess the risk

Considerations:

- 2.1. Risk assessment involves analysing all of the risks associated with hazards and evaluating them to determine steps required for risk control and setting priorities.

Standard Operating Procedure

Title: Environmental, Health and Safety – Risk Management

- Introduction of new plant/equipment/processes/tasks
- Changes to plant/equipment/processes/tasks where a potential EHS impact has been identified
- Post incidents.

The EHS PRA shall be done with members from EHS committee, representatives from Project Engineering and Electrical Engineering, and one or two representatives from the processes/areas being assessed. An EHS Committee representative should also be invited to attend.

The different steps in the PRA are:

3.1. Undertaking Preliminary Risk Assessment - PRA.

Every potential hazard identified during the PRA, needs to be assigned a risk rating with the use of the Risk Analysis Matrix under 2.3. A raw risk rating shall be initially be assigned, assuming that there is no control treatment in place and a revised rating assigned after considering any existing control treatments e.g. machine hazards pre-guarding and with current guards in place. The aim is to assess the effectiveness of all existing control treatments. Where it is identified that there are ineffective control treatments in place, an EHS DR shall be raised and corrective actions assigned.

3.2. Document findings on the EHS Risk Profile Summary

All potential hazards and their risk rating for an area/process shall be summarised using [Form-380](#). This Summary shall be revised when there are changes made to the control treatments or the profile of the potential hazards changes. The EHS Risk Profile Summary shall be kept in the area and used to educate new staff, support periodic training and used as a reference point when reviewing the “EHS Statement” in SOP’s particular to the area or tasks. The EHS Team have the responsibility for updating the EHS Risk Profile Summary. The Area manager is the owner of the EHS Risk Profile Summary for the corresponding area.

3.3. Communicate Findings

The EHS Risk Profile Summary shall be kept in the area and the Area/line manager shall communicate findings to all personnel, particularly any new staff. PRA documentation and copies of the EHS Risk Profile Summary shall be accessible in the area manager’s office.

3.4. Review

The Summary EHS Risk Profile will be reviewed by the Area manager, together with the EHS committee, on an annual basis or when there are changes to the process/area that have an impact on the SHE profile. The Area manager shall be responsible for ensuring this occurs. All information such as incidents, incident investigations and SHE QN’ relevant to the area/process has to be reviewed.

4. Control the Risk

4.1. The Control treatments for the control of a risk describes, in order of preference, the measures that may need to be used to control a hazard. The hierarchy of control treatment is:

1. Elimination of the hazard - this means 'designing out' hazards when planning new materials, equipment, and work systems.

Standard Operating Procedure

Title: Environmental, Health and Safety – Risk Management

6. Appendix 1 - Hazards and EHS Control Strategies

6.1. Introduction

This is a summary of the potential hazards that may be present within the Manufacturing operations, and the recommended EHS control strategies that shall be considered to control the hazards.

Note: There is a requirement to adequately consult with personnel working in that area when changes to the workplace are being considered.

6.2. Typical Process Hazards and their Control Strategies

Hazards	Control Strategy
MATERIALS	
Toxic material	<ul style="list-style-type: none"> Assessment of the material prior to using it on site. Handle materials in ventilated area or use local exhaust ventilation. Materials only handled by adequately trained personnel. Provision of material safety data sheets for all materials. Materials are correctly labelled. Store materials in designated & secure safe location. Wear suitable PPE when handling the material.
Corrosive material	<ul style="list-style-type: none"> Assessment of the material prior to using it on site. Materials only handled by adequately trained personnel. Wear suitable PPE when handling the material. Provision of material safety data sheets for all materials. Materials are correctly labelled. Store in suitable containers away from reactive materials. Store materials in designated & secure safe location.
Flammable material	<ul style="list-style-type: none"> Assessment of the material prior to using it on site. Restrict volume stored in depot to licence limits. Store materials in designated & secure safe location. Only use flammable cleaning agents in areas where naked flames are controlled and shielded. All ignition sources, such as sparks from grinders, should be a safe distance from material. Materials only handled by adequately trained personnel. Wear suitable PPE when handling the material. Provision of material safety data sheets for all materials. Materials are correctly labelled.
Combustible material	<ul style="list-style-type: none"> All ignition sources, such as sparks from grinders, should be a safe distance from material. Good housekeeping should prevent combustible material for being put in the wrong place.