

Hazard Identification and Risk Assessment (HIRA) Procedure and Guideline

1. Purpose

The purpose of this document is to outline the Hazard Identification and Risk Assessment (HIRA) process for ensuring the safety and health of all personnel and minimizing environmental impacts at the facility. This guideline provides a systematic approach to identify, evaluate, and control hazards to reduce workplace incidents and injuries.

2. Scope

This procedure applies to all processes, tasks, areas, and personnel involved at the facility, including employees, contractors, and visitors.

3. Definitions

- **Hazard:** Anything with the potential to cause harm, injury, or adverse effects on health, safety or the environment.
- **Risk:** The likelihood that a hazard will cause harm and the severity of its consequences.
- **Risk Assessment:** The systematic process of evaluating hazards and determining the level of risk.
- **Control Measures:** Steps taken to eliminate or reduce the risk associated with a hazard.

4. Responsibilities

- **EHS Manager/Safety Officer:** Develops, implements, and reviews the HIRA process, providing training to personnel involved.
- **Supervisors:** Ensures hazards in their respective areas are identified, assessed, and controlled.
- **Employees and Contractors:** Participate in the hazard identification and risk assessment process and follow all established safety protocols.
- **Top Management:** Participate in the hazard identification and risk assessment. Review the control of HIRA during audit, Inspection & monitoring.

5. HIRA Process

The HIRA process is broken down into the following steps:

5.1 Hazard Identification

- **Identify Hazards:** Systematically observe tasks, equipment, substances, and environments. Sources of hazards include:
 - **Physical Hazards:** Equipment, noise, temperature, radiation, etc.
 - **Biological Hazards:** Exposure to Snake, Eagle, Honey Bees bacteria, viruses, or allergens.

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Date : 26/03/2025	Date : 26/03/2025	

Issue No.: 01	Revision No.: 01	Rev. Date: 26/03/2025_R1	IPL/HIRAP/01
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- **Ergonomic Hazards:** Poor workstation design or repetitive motion.
- **Environmental Hazards:** Waste management, emissions, etc.
- **Methods for Identification:**
 - Workplace inspections
 - Group Risk Assessment GRA
 - Observation of tasks and processes
 - Incident reports and near-miss data review

5.2 Risk Assessment

- **Evaluate the Risk:** Assess the identified hazards based on their:
 - **Likelihood:** Probability that the hazard will cause harm.
 - **Severity:** Potential consequence or impact if harm occurs.
- **Risk Rating:** Assign a risk rating using a risk matrix (e.g., Low, Medium, High, and Extreme). Multiply the likelihood by the severity to classify the risk level.
- **Document Findings:** Record identified hazards, risk levels, and required actions in a HIRA log.

5.3 Implement Control Measures

- **Hierarchy of Controls:** Prioritize control measures using the following hierarchy:
 1. **Elimination:** Remove the hazard completely.
 2. **Substitution:** Replace the hazard with a less dangerous option.
 3. **Engineering Controls:** Isolate people from the hazard (e.g., machine guarding).
 4. **Administrative Controls:** Implement safe work practices, training, and scheduling.
 5. **Personal Protective Equipment (PPE):** Provide and require the use of appropriate PPE.
- **Assign Responsibility:** Ensure each control measure has an assigned responsible person and deadline.

5.4 Monitor and Review

- **Regular Inspections:** Conduct periodic reviews and inspections to ensure control measures remain effective.
- **Incident Analysis:** Reassess risks following any incident, near-miss, or process change.

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- **Update HIRA:** Keep records up-to-date, reflecting any new hazards, modified risk levels, and changes in control measures.

6. Training and Competency

All personnel involved in the HIRA process must be trained on hazard identification and risk assessment techniques, use of the risk matrix, and control measure implementation.

7. Documentation and Records

Maintain records of all HIRA activities, including:

- Hazard and risk assessment logs
- Control measures and action plans
- Training records

8. Continuous Improvement

Regularly review the HIRA process to incorporate improvements based on feedback, incident data, and evolving industry standards.

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