MASTER COPY

For Restricted Circulation only

SHAKAMBHARI GROUP #SteelWithin	**SHAKAMBHARI ISPAT & POWER LTD.** (Formerly known as Ess Dee Aluminium Ltd.)		
STANDARD OPERATING PROCEDURE			
Title: Hazard Identification and Risk Assessment			**Page No.** 1 of 5
SOP No.	**Version No.**	**Effective Date**	**Next review date**
SIPL/QAS/028	00	07.07.2026	06.07.2028

1.0 PURPOSE

1.1 To establish, implement & maintain a documented procedure for ongoing identification of the hazards, assessment of risks, and determination of necessary control measures.

2.0 SCOPE

2.1 Applicable for the activities, processes, products & services covered under the scope of the IMS.

3.0 REFERENCE(S) & ATTACHMENTS

3.1 References

3.1.1 In-house

3.2 Attachments

3.2.1 Attachment-I : HIRA Register : SIPL/QAS/028/F01/00

3.2.2 Attachment-II : List of Significant Risk (HIRA-S) : SIPL/QAS/028/F02/00

4.0 RESPONSIBILITY

4.1 HSE & Department Head.

5.0 DISTRIBUTION

5.1 Quality Control

5.2 Production

5.3 Warehouse

5.4 Engineering

6.0 DEFINITION(S) & ABBREVIATION(S)

6.1 Definitions

6.1.1 **Hazard:** Source or situation with a potential for harm in terms of human injury or ill health, or a combination of these.

6.1.2 **Risk:** The combination of the likelihood and consequence(s) of a specified hazardous event occurring.

6.1.3 **Normal:** A condition / situation which occurs whenever the activity / service is carried out according to the planned arrangement. This may happen during a routine activity. E.g. noise generation while machining operations.

6.1.4 **Abnormal:** A condition / situation which occurs due to deviation from planned arrangements. This may happen during a non-routine activity. E.g. finger entrapment between tools in machining operation & potential risk of electrocution due to a short circuit while carrying out electrical maintenance.

Prepared By:	**Checked By:**	**Approved By:**
05.07.2026	05.07.2026	05.07.2026

6.1.5 **Emergency:** An undesirable situation resulting from unforeseen and uncontrollable events, leading or having the potential to lead to intolerable consequences. E.g. fire in Furnace Oil (hereafter referred to as "FO") storage area.

6.1.6 **Routine:** Daily activities / services carried out in the plant.

6.1.7 **Non-routine:** Occasional activities / services carried out in the plant. These generally support activities comprising air conditioner (AC) maintenance, hydrostatic testing of pressure vessels, etc.

6.1.8 **Visitor:** Any person visiting the company, not involved in carrying out any of the routine or non-routine activity. E.g. suppliers, vendors, consultants, auditors, neighbours and the legal authorities.

6.1.9 **Risk assessment:** Overall process of estimating the magnitude of risk and deciding whether the risk is tolerable or not.

6.1.10 **Acceptable risk:** Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OH&S policy.

6.2 Abbreviations

6.2.1 HIRA: Hazard Identification and Risk Assessment

7.0 PROCEDURE

7.1 This procedure is designed for the identification of hazards, risk assessment and defining the necessary applicable control methods. While defining, the organization has referred to the complexity of the operations, suitability of the methodologies of risk assessment, workplace conditions, and top management guidance.

7.2 Hazard Identification

7.2.1 The OHS risks shall be identified through the Department Head and the following points shall be considered:

7.2.1.1 Adverse conditions – routine / non-routine / emergency.

7.2.1.2 Past, present and future situations.

7.2.1.3 Maintenance, purchasing activities.

7.2.1.4 Human factors such as fatigue, stress, abnormal conditions.

7.2.1.5 Working postures, ergonomics, etc.

7.2.1.6 Housekeeping.

7.2.1.7 Material handling.

7.2.1.8 Working on different premises.

7.2.1.9 Working in a hazardous area having chemical fire / explosion hazards.

7.2.1.10 Risks on account of statutory / legal requirement.

7.3 Risk Assessment

7.3.1 At least once in six months, the Department Head shall identify the possible loss and exposure of workers to risks, material & equipment, through brainstorming and task observation.

7.3.2 Analysis, physical visit to the work area and conducting risk assessment.

7.4 Occupational Health & Risk Evaluation

7.4.1 Evaluate the risks for hazard exposure identified through the above means, in HIRA, through giving severity and probability ratings, which shall be recorded in the HIRA format to arrive at a Risk Level for each hazard exposure / risk identified. Follow the methodology of HIRA activities covered in the relevant work instruction.

7.4.2 For the identified risks, indicate the risk controls proposed for implementation with details of responsibilities.

7.4.3 All the risks with a Risk Level of 16 and above shall be taken as significant risks, and for these, where appropriate, Work Instructions / Occupational Health & Safety Management Programs shall be prepared to detail the time frame, responsibilities and the actions to be taken to achieve the set objectives and targets.

7.5 Impact Evaluation Guidelines

7.5.1 **Severity (S):** The Department Head shall ensure that the OH&S risk and determined controls are taken into account when identifying the matrix. The Department Head will tally the HIRA considered and rank them for their severity. (Refer to the Severity rating matrix.)

7.5.2 **Probability (P):** Probability of a risk of injury, first aid, incident / accident, exposure to chemical, etc. It comes with a rating scale for which the Department Head shall consider normal operating conditions, abnormal conditions (i.e. shut down & startup) as well as the risk associated with reasonably foreseeable or emergency situations. (Refer to the Probability rating matrix.)

7.5.3 Criteria – Risk Level (RL)

Risk - Demarcation	**Risk Criteria**	**Definition**
≤ 6	Acceptable	Very limited risk - acceptable as normally no action needed and needs to be monitored only.
6-12	ALARP (As low as reasonably practicable)	Immediate measures required to reduce risk to at least tolerable, i.e. under control.
>16 - 26	Unacceptable	Stop work until measures are taken - untolerable, i.e. extremely high risk.

NOTE: Activities falling between >16 - 26 scores of this matrix are considered significant, else non-significant.

7.5.4 Hierarchy of Controls

Level of Control	**Controls**	**Description**
A	Elimination	Elimination of process / dangerous operation, reorientation of work place, machines etc. so as to eliminate the hazards.
B	Substitution	Alteration / modification / replacement of machine, tools, substances etc. so as to minimize / reduce the risk.
C	Engineering Control	Automation, robotic operations, safety guards, limit switches etc.
D	Administrative	Signage, warnings, SOPs, OCPs, Work Instructions, motivational programs, training etc.
E	PPEs	

7.5.5 Legends

Abbreviation	Meaning
FAC	First Aid Case
MTC	Medical Treatment Case
RWC	Restricted Work Case
LWC	Lost Workday Case
PPE	Personal Protective Equipment

7.6 Establish the Level of Significance:

7.6.1 The level of significance can be determined by using the following formula: Significant Risk Level (RL) = (Severity × Probability).

7.6.2 Significant Risk Level (RL): highest possible rating is 26, & above 16 as criteria for significance.

7.6.3 If the Severity × Probability scale is 16, it is considered a significant aspect.

7.6.4 Injury, first aid, ill health and legal requirements are considered a significant aspect in spite of their score rating.

7.6.5 The Department Head shall review and make the corresponding changes in HIRA biyearly or as and when needed, to determine other aspects that can still be considered in setting objectives, programs, operational controls and new rating of previously identified significant risks.

8.0 REVISION HISTORY

Revision No.	00	Effective Date	07.07.2026	CC No.	NA
Details of revision: New SOP					