

SAFETY CODE FOR IRON & STEEL SECTOR		
MINISTRY OF STEEL, GOVT. OF INDIA	<b>GLOSSARY OF TERMS RELATED TO SAFETY &amp; ABBREVIATIONS</b>	Doc. No: I
		Rev no. : 00 Effective Date : --

## 1. OBJECTIVE

Various terms & abbreviations connected with safety management are used frequently in Iron & Steel Industry. In this safety code, these terms with the meanings assigned to them are provided in alphabetical order for the sake of clarity.

## 2. SCOPE

This safety code covers the definitions of terms & abbreviations related to safety.

## 3. DEFINITIONS

- i) *Accident*- An unintended occurrence arising out of and in the course of employment of a person resulting in injury.
- ii) *Audit*- A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which defined criteria are fulfilled. Audits should be conducted by competent persons internal or external to the facility that is independent of the activity being audited.
- iii) *Biological Hazards* - Inhalation, ingestion, or contact with harmful Biological agents.
- iv) *Chemical Hazards*- Inhalation, ingestion, or contact with harmful chemical agents
- v) *Competent person*- A person with suitable training, and sufficient knowledge, experience and skill, for the performance of the specific work.
- vi) *Contractor*- A person or an enterprise providing services to an employer at the facility in accordance with national laws and regulations, or with agreed specifications, terms and conditions. For the purpose of this code of practice, contractors include principal contractors, subcontractors and labour supply agents.
- vii) *Dangerous occurrence*- Readily identifiable event, as defined under national laws and regulations, with potential to cause injury or disease to people at work or the general public, for example a “near miss” or a “near hit”.

- viii) *Employer*- Any physical or legal person that employs one or more workers.
- ix) *Engineering controls*- Use of technical measures such as enclosure, ventilation and workplace design to minimize exposure.
- x) *Electrical Hazards*- Electric arc which may cause eye damage or burns; electric shock or burns resulting from contact with parts at hazardous voltages; breakdown of insulation; leakage current; etc.
- xi) *Ex-Gratia*: Injury due to road accident while coming to or returning from duty, provided that such accident takes place
  - Within an hour of the beginning or the end of his/her shift.
  - On the main/shortest route from employee's home to his/her workplace.
  - The injured persons need to attend authorized Medical Centre immediately.
- xii) *Exposure limit*- An exposure level specified or recommended by a competent authority to limit injury to health. The terms adopted by the competent authority vary from country to country and include: "administrative control levels"; "maximum allowable concentrations"; permissible exposure limits"; "occupational exposure limits"; and "threshold exposure values".
- xiii) *Fire or Explosion Hazards*- Linked with fire or explosion, or incurred as their secondary consequences including damage to property.
- xiv) *Frequency rates*- Number of lost time injuries or Reportable lost time injuries per million man hours worked.
- xv) *Hazard*- The inherent potential to cause physical injury or damage to the health of people.
- xvi) *Hazard identification*- The systematic process of identifying hazards in the workplace.
- xvii) *Incident*- An unsafe occurrence arising out of or in the course of work where no personal injury is caused.
- xviii) *Job Safety Analysis*- Job safety analysis (JSA) is a procedure which helps integrate accepted safety and health principles and practices into a particular task or job. In a JSA, for each basic step of the job, it is to identify potential hazards and to recommend the safest way to do the job.
- xix) *Lost Time Injury (LTI)* - Any work-related injury, resulting in the company, contractor or third party contractor employee not being able to return to work for

their next scheduled work period. Returning to work with work restrictions does not constitute a lost time injury status, no matter how minimal or severe the restrictions, provided it is at the employee's next scheduled shift.

- xx) *Mechanical Hazards*- Projections, sharp points or edges which may cause cuts/lacerations; excessive noise/vibration; impact; entrapment of limbs in moving and stationery equipment; stability factor; etc.
- xxi) *Man-Hours Worked*- The total number of employee-hours worked by all employees working in the industrial premises. It includes managerial, supervisory, professional, technical, clerical and other workers including contractors' labour.
- xxii) *Near miss incident*- An incident that physically occurred but there was no personal injury to the employee, contractor or visitor but which could have resulted in a serious injury and needs to be followed up in the same way as a Lost Time Injury but recorded as a near miss.
- xxiii) *Occupational accident*- An unexpected occurrence, including acts of violence, arising out of or in the course of work which results in a fatal or non-fatal occupational injury.
- xxiv) *OSH management system*- A set of interrelated or interacting elements to establish OSH policy and objectives, and to achieve those objectives.
- xxv) *Permit to Work*- The permit-to-work is a documented procedure that authorises certain people to carry out specific work having high risk and involving multiple agencies in a coordinated manner. It sets out the precautions required to complete the work safely, based on a risk assessment. It describes what work will be done and how it will be done; the latter can be detailed in a 'method statement'.
- xxvi) *Protocol* - It is a document which lists the activities sequentially for the work to be taken up along with the persons responsible for that particular job with a view to ensure safety.
- xxvii) *Recording*- A procedure, specified in national laws and regulations, for ensuring that the employer maintains information on:
  - a) Occupational accidents and diseases;
  - b) Dangerous occurrences and incidents.
- xxviii) *Reporting*- A procedure, specified by the employer, in accordance with national laws and regulations and with the practice of the enterprise, for the submission

by workers to their immediate supervisor, the competent person, or any other specified person or body, of information on:

- a) Any occupational accident or injury to health which arises in the course of or in connection with work;
  - b) Suspected cases of occupational diseases;
  - c) Dangerous occurrences and incidents.
- xxix) *Risk*- A combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage to the health of people caused by this event.
- xxx) *Residual Risk*- Risk remaining after protective measures have been taken.
- xxxi) *Risk Analysis*- The use of available information to identify hazardous events and to estimate the risk.
- xxxii) *Risk Evaluation*- The process in which on the basis of risk analysis and taking into account factors such as social, economic and environmental aspects, judgments are made on the acceptability of the risk.
- xxxiii) *Risk Assessment*- The process of risk analysis and risk evaluation.
- xxxiv) *Restricted Work Case (RWC)* - Any work-related injury other than a fatality or a Lost Time Injury where the injured person cannot fulfill his normal work the day following the injury but is able to undertake a temporary job, work at his normal job but not full-time, or work at a permanently assigned job but unable to perform all duties normally assigned to it. If the injury has led to lower productivity or slower work from the worker, but the worker is still capable of undertaking all of their routine tasks, then this would not be classified as restricted work.
- xxxv) *Reportable injury*- Where in any factory an accident occurs which causes death, or which causes any bodily injury by reason of which the person injured is prevented from working for a period of forty-eight hours or more immediately following the accident.
- xxxvi) *Reportable Lost Time Injury*- An injury causing death or disablement to an extent as prescribed by the relevant statute.
- xxxvii) *Radiation Hazards*- Radio-frequency, infra-red, ultra-violet, high intensity light, coherent light, ionizing radiation, etc.
- xxxviii) *Safety*- Freedom from unacceptable risk of harm.

- xxxix) *Severity rate*- Number of man days lost due to lost time or reportable lost time injuries per million man hours worked.
- xl) *Tolerable Risk*- Risk which is accepted in a given context based on the current values of society.
- xli) *Thermal Hazards*- High or low temperature.
- xlii) *Unsafe act*- Any action that may endanger a person or people working around him/her. Examples: When working at heights (on a roof for instance) without using a safety harness or not clipped on; not wearing a seatbelt when driving a vehicle.
- xliii) *Unsafe situation*- Any situation judged as being such that, sooner or later, it may lead to a risk of an incident inflicting harm to one or more persons. Example: Missing or broken hand rail leading to risk of falling from height.
- xliv) *Work-related injury*- Death or any personal injury resulting from an occupational accident.
- xlv) *Work-related injuries, ill health and diseases*- Negative impacts on health arising from exposure to chemical, biological, physical and organizational factor.
- xlvi) *Warning Notices*- Signal words
  - a) DANGER- to call attention to high risk
  - b) WARNING- to call attention to medium risk
  - c) CAUTION- to call attention to a low risk

#### 4. ABBREVIATIONS:

- i) PPE- Personal Protective Equipment
- ii) MEWPs -Mobile elevating work platforms
- iii) MCWPs - Mast climbing work platforms
- iv) LEL: Lower explosive limit
- v) LOTO: Lock out Tag out
- vi) TLV- TWA : Threshold Limit Value – Time Weighted Average

- vii) HIRA- Hazard Identification & Risk Assessment
- viii) JSA- Job Safety Analysis
- ix) EA- Executing authority
- x) HOD- Head of Department
- xi) LPG – Liquefied Petroleum Gas
- xii) CNG – Compressed Natural Gas
- xiii) DA - Dissolved Acetylene
- xiv) SED- Safety Engineering Department
- xv) SOP – Standard Operating Practices
- xvi) SMP- Standard Maintenance Practices
- xvii) RCBO - Residual Current Breaker Overload
- xviii) RCCB - Residual Current Circuit Breaker
- xix) VRD - Voltage reducing device
- xx) FDA – Fire Detection & Alarm System
- xxi) MSDS- Material Safety Data Sheet
- xxii) SWL- Safe working load
- xxiii) EOT- Electric Overhead Travelling
- xxiv) ATPV- Arc Thermal Performance Value
- xxv) FR- Flame Resistant
- xxvi) CPR - Cardio-Pulmonary Resuscitation
- xxvii) RWC- Restricted Work Case
- xxviii) LTI-Lost Time Injury
- xxix) IOD- Injury on Duty

- xxx) S/P- Shunting Porter
- xxxii) Y/M-Yard Master
- xxxiii) BF- Blast Furnace
- xxxiiii) SMS- Steel Melting Shop
- xxxv) HMTTC- Hot metal Transfer Car
- xxxvi) PCM- Pig Casting Machine
- xxxvii) LRS- Ladle Repair Shop
- xxxviii) COG- Coke Oven Gas
- xxxix) CO- Carbon Mono oxide
- xl) UEL- Upper Explosive Limit
- xli) RM- Rolling Mills
- xlii) MCC- Motor Control Centre
- xliii) OEM- Original Equipment Manufacturer
- xliv) MVWS-Medium Velocity Water Spray System
- xlv) TIG Welded- Tungsten Inert Gas Welded
- xlvi) SAE flange- Society for Automotive Engineers flange
- xlvii) OD Pipe- Outside Diameter of Pipe
- xlviii) IPSS-Inter Plant Standardization in Steel Industry
- xlix) GTU-m Gravity Take Up Unit
- l) DES- Dust Extraction System
- l) LED- Light Emitting Diode

- li) CCS- Continuous Casting Shop
- lii) GCP- Gas Cleaning Plant
- liii) HPP- High Pressure Pump
- liv) PPM - Parts per million
- lv) UT - Ultrasonic Test

**References:**

1. ILO Code of practice on safety and health in the iron and steel industry, 2005
2. World Steel guidance document on 'Safety & Health principles and Definitions'.
3. Factory Act, 1948
4. IS 3786-1983 on 'Method for Computation of Frequency and Severity Rates for Industrial Injuries and Classification of Industrial Accidents'
5. IPSS: 1-11-001-98 –Definition of terms related to safety.