

# SOP 03 – Fire and Emergency Procedures

## S03.1 Purpose

The purpose of this Standard is to describe the steps while using, maintaining and storing portable tools and portable equipment. Proper usage of portable tools is crucial to EESL operations as usage of improper tools can lead to severe injuries.

## S03.2 Scope

This Standard is mandatory and applies to EESL and its contractors for the on-site implementation of programs.

## S03.3 References

The following IS and BIS standards and codes should be adhered:

- 1641:1988 – Code of practice for fire safety of buildings (general): General principles of fire grading and classification
- 2171:1999 – Specification for portable fire extinguishers, dry powder (cartridge type)
- 2546:1974 – Specification for galvanized mild steel fire buckets
- 2878:2004 – Fire extinguisher, carbon dioxide type (portable and trolley mounted) – specification
- 4308:2003 – Dry chemical powder for fighting B and C class fires - specification
- 7673:2004 – Firefighting equipment
- 10204:2001 – Specification for portable fire extinguisher, mechanical foam type
- 14609:1999 – Dry chemical powder fighting A, B, C class fires – specification
- IS 2190:2010 – Selection, installation and maintenance of first aid fire extinguishers – code of practice
- IS 15683: 2006 – Portable fire extinguishers – performance and construction

## S03.4 Emergency preparedness

It is essential to identify facilities where emergency preparedness procedures must be implemented. Large facilities like offices, warehouses and sales offices must prepare emergency preparedness or emergency evacuation plans. The site specific emergency plan must be developed for new and existing sites, in consultation with the head on site and the EHSS department. The emergency plan must comprise of the following sections:

- **Scope** – List of disasters covered and area of the facility covered (it is mandatory to cover the entire area used by EESL). The list of disasters must include fire, but can also be extended to other catastrophes like earthquake, floods and storms.
- **Identification of emergency scenario** – The emergency scenarios covered in the scope must be identified when they occur and communication should be made to the site EHSS representative, site head and EHSS department (later). For this, emergency detection equipment like smoke detectors, etc. must be installed. In order to alert the workforce in the area, hooters or alarms must be installed

- **Evacuation plan** – The evacuation plan must include a sketch of the floor layout, emergency exits and pathways for workers movement. The evacuation paths and doors should be clearly marked with approved signages
- **Containment procedure** – Firefighting equipment must be installed at the facility. Appropriate number of personnel must be trained in using them.
- **Communication** – External help must be sought from the firefighting department, etc. Important numbers of nearby fire stations, hospitals must be displayed at prominent places within the facility
- **Reporting** – At the end of the emergency situation, a report of the situation, remedial measures taken and current scenario must be sent by the site head/ representatives to the EHSS department

### S03.5 Safe assembly area

Every facility must have an identified safe assembly area, which is an open plot of land where employees can assemble till the emergency situation has been taken under control. The safe assembly area should be in the compound of the building and should be adequate for all employees to gather and assemble safely. The area should be clearly marked with approved signages and should be left free at all times. No structures (temporary/ permanent) should be allowed. Parking of vehicles even for short durations should not be allowed. There should not be any obstruction between the emergency evacuation path or staircase in the building and the safe assembly area. Once employees assemble in this area, the security supervisor must take a headcount and ensure that all employees and visitors present in the building/office/warehouse have evacuated.

### S03.6 Classes of fire

Fires are classified in the following categories:

#### **Class A Fires:**

Involving combustible materials of organic nature, such as wood, paper, rubber and many plastics etc. where the cooling effect of water is essential for extinction of fires.

#### **Class B Fires:**

Involving flammable liquids, petroleum products or the like, where a blanketing effect is essential

#### **Class C Fires:**

Involving flammable gases under pressure including liquefied gases, where it is necessary to inhibit the burning gas at fast rate with an inert gas, powder or vapourising liquid for extinguishers

#### **Class D Fires:**

Involving combustible metals, such as magnesium, aluminium, zinc, sodium, potassium, etc. when the burning metals are reactive to water and water containing agents and in certain cases to carbon dioxide, halogenated hydrocarbons and ordinary dry powders.

## S03.7 Firefighting equipment

Depending on the size of the facility, locality and type of work being undertaken, the requirement of firefighting equipment changes. It is essential for all facilities to obtain No Objection Certification from the state or local Fire Department. This certification prescribes the appropriate firefighting equipment to be installed at the facility. These could include:

- Fire hose reel
- Fire extinguishers
- Sand buckets

Fire extinguishers are the most common type of firefighting equipment being installed at office facilities, warehouses and sales offices. They should be selected based on the type of fire hazard, as depicted below:

- Class A fires – Water, foam, ABC dry powder and halocarbons
- Class B fires – Foam, dry powder, clean agent and carbon dioxide
- Class C fires – Dry powder, clean agent and carbon dioxide extinguishers
- Class D fires – Extinguishers with special dry powder for metal fires

The installation, use and maintenance of fire extinguishers should be undertaken considering the following aspects:

- Selection of the appropriate type, number of and size of the extinguisher
- Placement of the extinguishers at appropriate locations and heights
- Identification of a fire safety team, comprising of security guards and fire marshalls (typically employees comprising of EHSS department personnel and nominated people from other departments)
- Training and capacity building of fire safety team on the usage of fire extinguishers. External training must be sought for all security guards on the usage of these equipment
- Mock drills to train employees on emergency evacuation
- Regular inspection of fire extinguishers to identify leakage, discharge, breakage, etc. Refilling them wherever required

## S03.8 General safety precautions

The following general safety precautions must be ensured to avoid fire accidents:

- Smoke only in designated areas. Extinguish matches, tobacco products and place them in approved containers
- Close containers of flammable liquids when not in use
- Only operate equipments that you have been trained on. Before operating new equipment, read the instructions carefully
- In case of emergency evacuation, do not panic or run. Do not use elevators. Use the staircase to evacuate and stand in the safe assembly area till instructed by the site EHSS coordinator or security supervisor to resume work
- In case you spot fire first, inform the site EHSS supervisor or security and sound the emergency alarm
- Follow the precautions issued by the local government in case of earthquake or other natural disasters

## History of amendments

The latest versions of the Documentation Format must be used at all times. This page needs to be updated whenever there is a change in the version number of the documents.

S. No	Date of amendment	Version	Details of amendment
1.	DD.MM.YYYY	01	Initial approval of the documentation format

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**Prepared by**

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**Approved by**