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Foreword

1. Aims

1.1 The Panjab University at Chandigarh has a sprawling campus occupying an area

- Bulk Liquid Oxygen Storage Installations on User Premises
- The Storage of Flammable and Combustible Liquids
- Safety in Welding and Cutting (And other operations involving the use of heat)Automatic Fire Sprinkler Systems
- Use and Maintenance of Portable Fire Extinguishers
- Electrical Installations
- Standard on Fire Protection for Laboratories using Chemicals

3 Safety Inspections and rectification of shortcomings

SECTION A: PU OWNED / MANAGED BUILDINGS

CHAPTER 1 GENERAL FIRE SAFETY DUTIES AND RESPONSIBILITIES

1 General

1.1 The Head of Department is responsible for ensuring that appropriate fire safety measures are taken in his/her Department. He should also

- c) Conduct regular tests, inspections and maintenance of fire safety measures in PU buildings (including the fire protection/detection and gas detector systems installed and maintained by tenants and lessees) in accordance with the schedules spelt out in Chapter 3 and in accordance with the relevant CPs.
- d) Ensure contractors do not obstruct fire detectors, sprinklers, other fire equipment or impede any access/escape route during renovation, alteration and addition, construction works and comply with fire safety requirements stipulated in National Building Code of India 2016 and Fire Act 1986.
- e) Ensure that all renovations, alterations and additions to buildings are properly authorised in accordance with permission of Chief Fire Officer Chapter 5 of Section A.
- f) Advise the PU Campus community on fire safety measures before renovation, alteration or addition works are carried out at PU owned / managed premises and then follow up to ensure that they are incorporated;
- g) Ensure that the buildings are adequately equipped with fire hoses, fire extinguishers and other fire safety devices as per N.B.C. - 2016.

III. PU Administrative and Academic Divisions

- a) Exercise surveillance over the staff and occupants to ensure that they comply with the fire safety precautions and take actions as appropriate, on occupants who do not comply.
- b) Ensure that the occupants in the buildings observe the fire prevention measures listed and submit their compliance with the list of fire safety Do's and Don'ts (See Appendix A-I).
- c) Ensure that all renovations, alterations and additions to PU buildings are properly authorised in accordance with the requirements stated in Chapter 5 of Section A;
- d) Ensure that all electronic equipment and wiring are regularly checked and properly maintained;
- e) Observe good housekeeping by separating combustible materials;
- f) Appoint Fire Safety Coordinators and Fire Wardens for own respective division;
- g) Establish a fire evacuation plan for their own respective division and conduct at least one evacuation drill annually based on the procedures spelt out in Section B, Chapter 2 and 3OVTT8 0W/8o0xTqI/IWH8n0'qq/.I'W8d0/qV.OVTT8

Hostel on student occupants who do not comply and the Hostel shall keep FSWPU / Estate Branch informed;

- b) Ensure that the staff and students observe the fire prevention measures listed in Chapter 2 of Section A;**
- c) Observe good housekeeping by separating combustible materials at all times;**
- d) Appoint Fire Safety Coordinators and Fire Wardens for its own premises;**
- e) Establish a fire evacuation plan for own respective division and conduct at least one evacuation drill annually based on the procedures spelt out in Section B, Chapter 2 and 3 respectively; and**
- f) Ensure that its staff are familiar with the evacuation plan established.**

CHAPTER 2 GENERAL FIRE PREVENTION MEASURES

1 INTRODUCTION

1.1 Fire prevention measures may be grouped into distinct categories; viz: fire detection and protection equipment, passive measures, housekeeping, electrical systems and wiring, and other hazards.

1.2 Fire Detection and Protection Equipment

- a) Fire detection, Smoke, Heat, Flame and Gas detection and protection systems installed shall be maintained and regularly checked for serviceability.
- b)

- d) Rubbish storage bins made of non-combustible materials shall be provided and placed under cutting, boring and turning machines.
- e) Used cleaning rags and other impregnated materials or waste cloths should be kept in non-combustible containers with self-closing and close fitting lids.
- f) All packing materials should be neatly stacked in a separate storage area and not in passageways or aisles or near electrical panel etc.
- g) There shall be a minimum clearance of 0.5m between the top of storage piles and sprinkler heads or the ceiling.
- h) This clearance space shall be 1.0m in workshops. 6.0 meter around building motorable road
- i) In storage areas, aisles shall be maintained for unobstructed access and egress. These aisles should correspond as much as possible to the width of the room's entry/exit points.
- j) Provision shall be made for ready access to fire fighting equipment. A minimum 1.5m clearance must be maintained
- k) All fire exits and escape routes shall be kept clear of obstructions. A minimum 3m clearance is to be maintained from fire exit staircases.
- l) A floor plan shall be made available at the fire alarm panel board to facilitate the work of emergency services in case of fire outbreak.

1.5 Electrical Systems and Wiring

- a) Connections between wires and plugs should not be loose.
- b) Conduits and raceways should be fastened into position and secured to outlet boxes, cabinets and other equipment.
- c) All electrical boxes should be closed to prevent the possibility of contact with combustible materials.
- d) Overloading of electrical circuits is not allowed. All circuits should be protected by a appropriate fuse or circuit breaker.
- e) All fixtures, switches and sockets should be well maintained.
- f) Electrical equipment should be properly wired. Wiring should not be frayed or loose. All electrical appliances shall be of an approved type, correctly positioned and have well maintained flexible cords.
- g) Electrical equipment should not be left energized when not in use especially during after-working hours. They should be switched off when not in use.
- h) The use of multiple plugs drawing power from one socket is not recommended. If necessary, more permanent power sockets should be added by a Licensed Electrical Worker (LEW) of the appropriate grade.
- i) Escape lighting/Emergency lighting System, Chapter 4 – Fire and Life Safety, Page No 8 as per NBC – 2016.
- j) Emergency power for Fire Equipment Life Safety System, Chapter 4 – Fire and Life Safety, Page No 22 as per NBC - 2016

- ii. check for obstructions such as partitions, racks or piled stock which are erected/placed in such a way as to interfere with the effectiveness of the fire alarm/detection system; or
 - iii. the removal of a detector and its replacement by a detector which has been checked and calibrated by qualified supplier.
 - iv. In addition, the following checks shall also be conducted:
 - v. Circuits requiring automatic voltage regulated supplies shall be checked to ensure correct operation and voltage output.
 - vi. Where the heat sensitive element of thermal detectors or the enclosure of other detectors are found to be coated with paint or any other material likely to affect adversely the operation of the detectors, such materials shall be cleaned off or detectors replaced.
- e) **Random Test.** Fire detectors that are installed and maintained by tenants at their respective premises shall be subject to random tests by tenants.
- f) **Others.** Individual Dept Fire/Safety Officer to check for obstruction such as partitions, racks, piled stocks or detectors located near air-conditioning /exhaust vents, in such a way as to interfere with the effectiveness of the detectors' function.

3.2 Private fire hydrants and wet rising mains and Down Comer System

- 3.2.1 Inspection, maintenance and testing of private fire hydrants shall be carried out at least once a year by OED. OED shall also ensure that all isolating valves for the systems that are kept locked in an "open" position.
- 3.2.2 Dry rising mains inlets, landing valves, drain valves, door hinges and locking arrangements to the inlet and landing valve boxes shall be inspected and undergo a thorough test every six months. Special attention should be given to all valves, spindles, glands and washers to ensure that they are in satisfactory conditions so that all equipment continue to be ready for immediate use.
- 3.2.3 In addition, wet tests to be carried out annually where the main can be checked for leaks.

3.3 Automatic fire sprinkler systems

- 3.3.1 Periodic testing of automatic fire sprinkler systems shall be carried out on a weekly, quarterly, annually and three yearly basis.
- a) **Weekly tests:** The following checks and tests should be made every week.
- i. Check water level and automatic refilling facilities of all water storage tanks in the system.
 - ii. Check that all stop valves are secured in the open or closed position as appropriate. Particular attention shall be given to the main control valve, drain valve and test valve.
 - iii. Check and record the pressure at the installation gauge and water supply gauge and ensure that normal water pressure is being maintained.

- iv. Check for correct operation of the water alarm bell.
 - v. Start all pumping units, by operating the test valve in a manner which will simulate the conditions and check correct cut-in pressure, pump gland operation, both local and remote pump run alarms, and pump priming water.
 - vi. (Note: on electric motor driven pumps, check the phase failure alarm and check that there is no excessive vibration or noise. Pump shall be fully operational within
 - vii. 30 seconds.) For electrical pumps, run pumps for not less than 10 minutes and check for the correct running speed.
 - viii. Test the interchangeability and function of the duty and standby pumps.
 - ix. After testing of the pumps and resetting of the systems, check and record the pressure at the installation gauge and water supply gauge to ensure that normal water pressure is being maintained.
 - x. Check that required spare sprinklers and sprinkler spanners are on hand.
 - xi. Check pump room to ensure it is kept free of combustible materials and accessible at all times.
 - xii. Check the breeching inlet to ensure they are in good condition.
- b) Quarterly tests: Tests to be carried out are as follows:
- i. Electric powered pump – where secondary power supplies are provided, the pump shall be run off the secondary supply. The pump shall be run for not less than 5 minutes.
 - ii. Test all water flow alarm switches by operation of a 10 mm test valve to simulate fire conditions. These may be tested as a weekly rotating basis; however, each switch must be tested yearly.
 - iii. Operate and check to ensure that all isolating valves on the main connection, and any other water supply stop valves, are fully open.
 - iv. Check to ensure that all water supply non-return valves are correctly seated.
 - v. Clean the strainer and oil the external alarm water motor and gong.
 - vi. User to check for obstructions such as partitions, racks or piled stock which are placed in such a way as to interfere with effectiveness of water discharging from sprinklers.
- c) Annual tests: In addition to the normal weekly and quarterly tests, the following additional test shall be performed:
- i. Carry out water supply periodic check test to ensure that the water supply satisfies the pressure/flow requirements appropriate to the hazard class.
 - ii. Physical check of the internal mechanism of all pressure switches to ensure that all components are free of corrosion, securely mounted and in working order.
-
-

iii. With electrical equipment isolated from all power supplies, the motor starter should be cleaned and the condition of all heavy-current carrying contacts checked.

iv.

- ii. Agent supply cylinder pressure operated control heads for physical damage, deterioration, corrosion, distortion, cracks, dirt and loose couplings;
 - iii. Agent supply cylinder electric control heads for physical damage, corrosion, or dirt and check control heads flexible electrical line for wear and damage;
 - iv. Agent supply cylinder and valve assembly for leakage, physical damage such as cracks, dents, distortion, and worn parts and check burst disc and pressure gauges for damage;
 - v. Agent supply cylinder brackets, straps, cradles and mounting hardware for loose, damaged, or broken parts and check cylinder brackets, straps, and associated parts for corrosion, oil, grease, grime, etc;
 - vi. Flexible discharge hoses for loose fittings, damaged threads, cracks, rust, kinks, distortion, dirt and frayed wire braid;
 - vii. Nitrogen actuation line (if used) and support brackets for continuity, physical damage, loose fittings, distortion, cracks, or cuts;
 - viii. Discharge nozzles for dirt and physical damage;
 - ix. All manual pull stations for cracks, broken or cracked glass plate, dirt or distortion and signs of physical damage; and
 - x. Pressure switches for deformations, cracks, dirt or other damage.
- c) **Monthly Inspection.** Perform pressure switch test and electric control heads test for proper operation.
- d) **Two-yearly Inspection.** Remove nozzles from piping and all pressure operated control heads from agent supply cylinders, open distribution valves and blow out distribution piping with air or nitrogen or ensure that it is not obstructed.
- e) **Five-yearly Inspection.** Conduct hydrostatic pressure test on agent supply cylinders and flexible hoses as necessary.

3.5 Hosereels

3.5.1 OED shall conduct annual serviceability check of the hosereels.

3.5.2 Ensure that the inlet valve, the automatic on/off valve (if any), glands, tubing and shut-off nozzle are sound and free from leaks, and also to ensure that the outlet of the nozzle is not choked.

3.5.3 Some nozzles, in addition to giving a j WWH/OT8t0x.qV'VI.8 0xIk/8v0xW.qVT.8, 0 3[83.5.20W//] "&4,_.TGI'G"f g'TG/G"dg8G0"j g,_.GI'G"f O'G/G"dg[8S0TqO/'.l8o0

CHAPTER 4

- 4. Inspection and Maintenance of Fire Extinguishers- Monthly, Quarterly & Annual.**
- 4.1 Inspection Procedures :** Construction Office and fire wing shall conduct annual inspections which include at least a check of the following:
- a) Fire extinguishers are located in their designated locations.
 - b) There is no obstruction to access or visibility.
 - c) The operating instructions on the label attached to each fire extinguisher are legible and facing outward.
 - d) Seals and tamper indicators are not broken or missing.
 - e) Determine fullness by weighing or "hefting"
 - f) Visual checks for obvious physical damages, corrosion, leakage or clogged nozzles.
 - g) Pressure gauge reading is within the operative range indicating correct working pressure.
 - h) Essential parts, such as the discharge tube/horn are serviceable and not missing.
- 4.2 Each fire extinguisher shall be clearly marked with the following information:**
- a) The extinguishing medium contained in the extinguisher.
 - b) Type (e.g gas cartridge or stored pressure type)
 - c) The class of fire for which it is suitable
 - d) Method of operation
 - e) Test and working pressure
 - f) The date of last service or expiry date of serviceability
- 4.3 The discharge lever of fire extinguisher should have a safety pin secured with a seal or tamper indicator.**
- 4.4 All fire extinguishers, except those that are empty, shall be positioned upright at all times.**
- 4.5 All fire extinguishers shall be serviced annually as per BIS norms by competent personnel from organisations approved by SCDF and a label is attached to each extinguisher as proof.**
- 4.6 All fire extinguishers will be replaced as per B.I.S. norms periodically and H.P. Test will be made as per norms also.**

CHAPTER 5
REQUIREMENTS FOR RENOVATIONS, ALTERATIONS AND ADDITIONS
TO PU BUILDINGS

1. **Objective: Alteration/ Addition permission shall be obtained from CFO of Fire and Safety Wing of P.U.**
 - 1.1 These requirements are intended to ensure fire safety and general safety of occupants are not compromised by any renovation, alteration or addition to the existing configuration inside and outside buildings.
 - 1.2 Compliance with the requirements listed hereunder shall be incorporated into the tenancy agreement where the space is allocated to a P.U. department and rest with the department responsible for coordinating the renovation, alteration or addition works, and shall be based on Fire Safety Act, Codes of Practice or as advised by the FSWPU.
2. **General Requirements**
 - 2.1 All renovations, alterations and additions to buildings shall meet the requirements stated in Construction Office's Safety Management System under clause 2.3, with regards to fire safety requirements. This compliance is in addition to other requirements or approval by other relevant Fire Control authorities.
 - 2.2 Copies of the relevant floor plans indicating the extent of renovations, alterations, and/or additions; together with fire safety measures, e.g fire exits and signs, etc shall be extended to CFO of fire wing for permission/approval.
 - 2.3 When contractor takes over the premise for renovation work, the contractor is responsible for the necessary fire safety measures within this premise. Upon handing over of premise to end users, the contractor is still responsible for the fire protection installations for one year of Defects Liability Period (DLP). After DLP, Construction Office will be responsible to maintain the installations in working order.
 - 2.4

SECTION B: FIRE SAFETY GUIDELINES

APPENDIX A-I FIRE SAFETY DOS AND DON'TS

- 1. Do not use cardboard boxes, wooden crates or other receptacles that are made of combustible material as makeshift rubbish bins at your workplace.
Do provide and use proper rubbish bins, preferably those made of non-combustible material, like metal.**

12. Do not put any liquid or thing that is flammable or combustible near an electrical socket, switchboard or an enclosure containing electrical components.

Do ensure that electrical socket, electrical switchboards and the enclosures of electrical components are kept clear of flammable or combustibles substances and liquids.

13. Do not use electrical equipment that has poor wiring such as frayed wires.

APPENDIX A-II

premises. The emergency numbers shall be prominently displayed on the telephones. All fires, however small, shall be reported to Campus Fire Control Room.

11. Tenants shall take all reasonable measures to prevent false alarm in their premises. They shall work closely with Construction Office and FSWPU on this.

APPENDIX A-III WELDING AND HOT WORKS

1. Scope

1.1 The procedures in this Appendix are to protect persons from injury and illness, and property from damage by fire or from improper handling of the equipment.

1.2 The requirements listed in this Part is in addition to the Bureau of Indian Standards.

2. Welding and Cutting Operations

2.1 When portable cutting or welding equipment is used, the main danger is that combustible materials may be ignited by sparks, hot metal, heat conduction, the flame, or the electric arc itself. Other fire risks associated with the different types of equipment are flashback fires from gas equipment and

- i) During welding and flame cutting operations, toxic hazards can arise from fumes and gases especially metal fumes, deriving from zinc, cadmium, copper, iron and lead, are dangerous.
- j) Poor ventilation may cause build-up of toxic gases, fumes and explosive mixtures of flammable gases.
- k) Unsecured gas cylinders may be knocked over and there is risk of damage to the regulator causing a release of flammable gas.
- l) Operators are exposed to stray sparks and heat.

3. Responsibilities

3.1 The following guidance is for cutters, welders, their supervisor and those managing property where welding or cutting work is done. These guidelines should be complied with as far as possible.

3.2 The Department, shall be responsible for planning and control as follows:

- a) Recognise its responsibility for safe usage of cutting and welding equipment on its property
- b) Designate / establish approved area for cutting and welding works.
- c) Designate an individual to be responsible for authorising cutting and welding operations. The individual must be aware of the hazards involved and be familiar with the standard for cutting and welding processes.
- d) Ensure that only approved apparatus; such as torches, manifolds, regulators or pressure reducing valves are used.
- e) Ensure cutters, welders and supervisors are suitably trained in the safe operation of equipment and processes.
- f) Advise staff and students about flammable materials and hazardous conditions in the vicinity.

- iv. ensuring that welding or cutting works are scheduled that operations which might expose combustibles to ignition do not coincide with the welding or cutting works.
- d) Secure authorisation for cutting or welding operations from the designated management and assure himself of the following:
 - i. The cutting and welding equipment used is in satisfactory operating (mechanical and electrical) condition and in good repair.
 - ii. The floor is swept clear of combustible waste and storage.
 - iii. All combustibles shall be relocated at least 12m from the work site. Where relocation is impracticable, irremovable combustibles shall be protected with flameproof covers/non-combustible screen, or shielded with metal or other appropriate guards or curtains.
 - iv. Wall or floor openings, gaps within 12m of this site shall be tightly covered with non-combustible materials to prevent passage of sparks to adjacent areas.
 - v. Where cutting or welding is done near walls, partitions, ceilings, or roofs of combustible construction, fire] resistant shields or guards shall be provided.
 - vi. Cutting or welding on pipes or other metal in contact with combustion walls, partitions, ceiling or roofs shall not be undertaken if the work is close enough to cause ignition by conduction.
 - vii. Portable fire extinguishers, appropriate for the classes of fires that may break out, shall be suitably placed at the work area.
 - viii.

- f) All fire occurrences shall be reported to Campus Fire Control room of Fire Wing.
- g) Check for smouldering materials half-an-hour after completion of work.

4. General Fire Prevention

4.1 Cutting or welding shall be permitted in a fire-safe ar

- g) Replace leaking hose immediately.
- h) Damaged equipment shall not be used.
- i) Observe correct ignition procedure.
- j) Open cylinder valves slowly.
- k) Cylinder valves should not be lubricated.
- l) Cylinder valve shall be kept clean.
- m) Where key-ee d.
- k) DariWHG/G"dg[8C0TqkGITq/"4[8a_.TGI'G"f gllq/TG/G"dg8G0OqO'WkV8am"f gkq.'C

**APPENDIX A-IV
FIRE PRECAUTIONS DURING OXYGEN STORAGE**

1. Scope

1.1 This Chapter describes the hazards associated with the storage of oxygen and recommends procedures for safe storage.

2. General

2.1 Currently, PU may utilise either gaseous or liquid oxygen.

2.2 Gaseous oxygen is colourless, odourless, tasteless and non-toxic. It constitutes about 21 percent of normal air by volume and is about 10 percent heavier than air. Above its critical temperature (-82.4°C) oxygen can exist only as a gas regardless of the pressure exerted upon it.

2.3 Liquid oxygen is a light blue, transparent liquid, which flows like water. It boils at -147.2°C at standard atmospheric pressure. If a volume of liquid oxygen is confined and allowed to warm to room temperatures, the attempt of the vaporising oxygen to expand will result in the attainment of extremely high pressures (in the order of 40,000 psi).

3. Hazards

3.1 Both gaseous and liquid oxygen are stable, non-flammable substances, but they vigorously support combustion and increase the intensity of fires. This makes it necessary to keep concentrations of oxygen separated from combustibles and from any source of ignition.

Therefore, the highest standard of housekeeping is essential.

of the sun in localities where extreme temperatures prevail, and from the ground beneath to prevent rusting.

resistance ratings for enclosure walls, floors, ceilings and doors, that serves as a required exit.

Exit Staircase: A staircase which has its enclosure constructed of non-combustible material having a fire resistant of not less than the minimum period require by NBC - 2016, for Elements of Structure for the part of the building in which it is situated.

Public Assembly: Assembly occupancies include but are not limited to, all buildings

5.9 P



d)

- d) General garbage should be placed in a trash bag and disposed through approved contractors.
- e) Measures are to be taken not to allow overflow of the garbage from the trash bag and littering is strictly not allowed. If possible place environmental awareness posters as a reminder for keeping the area neat and tidy.
- f) Toxic and hazardous wastes are to be properly stored and disposed off through approved vendors. Ensure all safety precautions are taken while handling these wastes.
- g) All wooden pallets, cardboard boxes and similar items are to be stored and disposed off properly. If possible, recycling is to be encouraged.
- h) Wherever possible, use recycled materials and always conserve energy during the event
- i) Toilets and other facilities should be maintained for its hygiene
- j) Prevent water stagnation during and after the event.
- k) Report of any potential dangers in the event site to organizer, Campus Security, FSWPU and Construction Office.

9. REFERENCES

- a) Code of Practices for Fire Precautions in Buildings
- b) Guidelines from Fire Safety and Shelter Department NBC - 2016
- c) Bureau of Indian Standards/IS: 10132-1981

10. Are the extinguishers in their proper mark type, capacity, location, fully charged & within date of service installed according to risk?
11. Are the extinguishers securely mounted or in an approved cabinet (not more

Other Findings & Corrective Actions

INSPECTION SUMMARY

Pass Re-inspection Propose Date of Re-inspection : _____

Name of Building Representative

Name of OED Representative

Name of Inspector

Signature of Inspector Date

EVENT INSPECTION CHECKLIST

Office of Fire Safety Wing P.U.

Title of Event Location of Event

Name of Event Director Duration of Event

Date from : _____ to _____

Time from : _____ to _____

CHECKLISTS YES /NO/ REMARKS

1. Exit announcement read and displayed visible in the event area?
2. All exit doors clear and unobstructed?
3. Exit paths clear and unobstructed all the way to outside?
4. Electrical wires taped down or otherwise secured?
5. Aisles clear and un-obstructed?
6. Exit lights on and unobstructed?
7. Emergency lights unobstructed?
8. Floor layout and setup approved?
9. Fire protection equipment (fire manual call point, alarm bells, speakers, extinguishers, hosereel, alarm panels) unobstructed?
10. Use of pyrotechnics approved?
11. Crowd managers in place? 1 : 250 (crowd manager : people)
12. Tents/marquees approved?
13. Ambulance and/or medical services in place?

DETAILS OF EVENT

Event: _____ Date: _____

Location: _____ Time: _____

Sponsor: _____

1. Obtain approval from Office of Estate & Development on usage of open space

Name of Authorizing Officer : _____

Date approval obtained : _____

2. Obtain approval from Campus Security on car park facilities and space

Name of Authorizing Officer : _____

Date approval obtained : _____

3. Ensure that arrangements have been made to comply with the following:

a)

**APPENDIX A-VI
CONDITIONS FOR FIRE SAFETY CLEARANCE ON PYROTECHNICS AND
FIREWORKS DISPLAY**

Conditions for Fire Safety Clearance on Pyrotechnics and Fireworks Display

As per laid down procedure of Controller Explosive and District Magistrate,
Chandigarh.

Precaution & Special Instruction:

Evacuation plan & evacuation direction must be known by every personnel.

Safety equipment must be available as per instruction in the floor diagram. Obtain a schematic diagram Construction Office and mark your safety equipment location; place the diagram as per specific size required by the location considering scope of visualization. Size and location depends on the enterprises, so check compliance book of your enterprise.

Statement of Policy:

1. Quarterly fire and emergency evacuation drills are required to be conducted for all premises equipped with a required fire alarm system/bell.
2. All employees must evacuate when alarms are sounded or when authorities initiate an evacuation order. Employees with disabilities, who cannot independently evacuate, must evacuate to the nearest area of rescue/refuge, typically a stairwell landing.
3. All Students, Teaching and Non-Teaching Staff of the University, at the time of the drill, must participate in the fire drill.
4. An alert and educated staff of the University is the most valuable resource for fire protection. Fire hazards arise from unsafe conditions and practices. Every employee has a responsibility and vested interest in making a concerted effort to correct and improve their work conditions and practices. Fire hazards include, but are not limited to:

Smoking: This activity is strictly prohibited in Panjab University Campus

Stationary: y Cp

Alarms: More or less every organization is equipped with automated alarm devices. While extremely efficient, these systems do not ensure all emergency/fire situations will be suppressed. To ensure the safety of employees, stair cases are to be used for evacuation. Failure to see fire or smell smoke does not mean a threat to your safety is not present. Alarm situations could be the result of:

Fire	Gas leaks
Natural Disasters	Hazardous Materials Incidents in other floor
Threats of Violence	Electrical short circuit Etc.

In the event of an alarm/fire employees should practice the procedures associated with the acronym "RACE".

- R** Remain calm, do not panic. Rescue persons in immediate danger.
- A** Alarm activate the nearest fire extinguisher/fire hydrant and notify the fire department. Inform other employees & shout for fire.
- C** Contain fire at point of origin by closing all doors and windows.
- E** Evacuate the facility using established procedures. Extinguish fire by using a portable fire extinguisher. (Unless you have been properly trained, never attempt to use a fire extinguisher) Report fire/pull alarm first; extinguish after. Never attempt to extinguish a fire unless you can do so safely.

Maintain updated copies of the evacuation plan. Contact concerned if there are any needed changes to the evacuation plan: building modifications, staff, etc.

Assist assigned department with yearly review of evacuation plan and safety inspections.

Ensures the evacuation plan is easily accessible to all employees, reviewed annually with all employees, reviewed annually and amended as needed, and the plan provides for evacuation of Physically Challenged /injured employees.

Abbreviation and Definition:

- SOP : Standard Operation Procedure
- EHS : Environment, Health & Safety
- CAPA : Corrective Action and Preventive Action
- OSHA : Occupational Safety & Health Act
- HRA : Human Resources & Administration

Revision History:

SECTION C: STANDARD OPERATING PROCEDURES FOR PU BUILDINGS

CHAPTER 1 PROCEDURES FOR RESPONDING TO FIRE OUTBREAKS

- 1. Actions to be taken in the event of fire**
 - 1.1 The fire alarm system of all buildings in PU Campus are linked to the Campus Security Fire Control Room. Any person discovering an outbreak of fire, shall alert Campus Security and the nearby occupants immediately by activating the nearest fire alarm (break-glass) call point.**
 - 1.2 He/she shall then inform Chandigarh Fire Brigade at telephone no: 101 and Campus Security at telephone no: 2534891 of the following:**
 - a) Location of fire**
 - b) Nature of fire, if known**
 - c) Injury to personnel, if known person if trapped inside building if any.**
 - d) Informant's particular and contact number**
 - 1.3 He/she shall then attempt to put out the fire without taking any personal risk.**

CHAPTER 2
SAMPLE FIRE EMERGENCY PLAN (PU STANDARD)

Requirement

All buildings with two stories and above, or with more than twenty occupants in the building are required to formulate their Fire Emergency Plan.

FIRE EMERGENCY PLAN

1. OBJECTIVE

a) Purpose

- b) Fire Wardens / Assistant Fire Wardens
- c) Campus Security

7.1.3 The Signal for Fire Alarm for fire is a continuous ringing note resounding from the electrically operated bells on every storey of the building. The fire alarm signal can be raised by:

- a) Break-glass alarm system
- b) Automatic heat and smoke detector system
- c) Automatic sprinkler system

7.2 Actions to be taken in the event of a fire during office hour

7.2.1 Informant

The person who discovers the fire shall immediately:

- a) Raise the alarm by activating the nearest fire alarm “break glass” call point.
- b) Notify Campus Security Tel No.:0172-2534891 and Chandigarh Fire Brigade at Phone: 0172-2747820 / 2690523 101 of the activation of fire alarm and state the following:
 - i. Location of the fire
 - ii. Nature of fire, if known
 - iii. Injury to personnel, if known
 - iv. Informant’s particulars and contact number

The caller shall not replace the telephone set until the address has been repeated by the operator at the Control Room.

- c) Attempt to extinguish any incipient fire with the available fire fighting equipment.

7.3.2

7.5.2 Fire Warden / Assistant Fire Warden

- a) Be familiar with the Fire Emergency Plan and means of escape of the building (Refer to respective Floor Plan for Fire Escape Route)
- b) Be familiar with the operation of the fire alarm system and the use of first aid and fire fighting equipment.
- c) Acquaint any new employees with the Fire Emergency Plan including his/her specific role (if any) during an emergency.
- d) Liaise and co-ordinate with each other.

7.5.3 Campus Security

- a) Be familiar with the Fire Emergency Plan.

Assistant Fire Warden <location of floor>
Assistant Fire Warden <location of floor>
Assistant Fire Warden <location of floor>
Assistant Fire Warden <location of floor>
Assistant Fire Warden <location of floor>

Appendix B
SITE PLAN OF ASSEMBLY POINT
ASSEMBLY POINT (LOCATION)

Appendix C
AP
AP
LEVEL 1 – FIRE ESCAPE ROUTE

Appendix D
EVACUAAAenQ(I .f)b4D:~)1)c(_4L6jY (_uuIVfg(bv1C:qqIAf)b_u:qqIOfgjb_ u4L6jY (_uuDnl,Udd

**CHAPTER 3
FIRE EVACUATION PROCEDURES**

1. Action to take on hearing the alarm

1.1 In the event of an outbreak of fire within a building, the procedure to take are as follows:

- a) He/she shall stop all work, keep all important documents and shut off all electrical equipment if possible.**
- b) He/she shall remain alert in his/her area and wait to be guided by the Fire Warden.**
- c) He/she shall leave the building immediately using the nearest safe exit route and report to the designated Assembly Area.**
- d) Upon reaching the assembly area, he/she shall wait there for further instructions.**

2. Others

2.1 Do not stop to collect your personal belongings

2.2 Do not use lifts

2.3 Do not re-enter the building unless authorised to do so



6. Record

6.1 FSWPU will document a copy of the form and forward another copy to Head of Department/Administrative Units for reference. One copy of the report will also be sent to building fire safety coordinator for documentation and follow up if any

7. Appendices

Appendix I : Fire Evacuation Drill Analysis Form

FIRE EVACUATION DRILL ANALYSIS FORM

Panjab University Safety Health & Environment

Building Name Building No.

Address

Fire Safety Coordinator

Previous Evacuation Timing (if any) Time Initiated Time Completed

Fire Wardens reported to Assembly YES / NO If No, Which floors or areas did not Point and performed duties.

Evacuation Checklist: N.A / YES / NO

- 1. Occupants/staff exited using the nearest exit?**
- 2. Occupants/staff responded and reported to Assembly Point**
- 3. Persons with disabilities are accounted for?**
- 4. Visitors and students were properly directed?**
- 5. Could the alert announcement be heard over PA system?**
- 6. Accounted for missing personnel?**
- 7. The alarm was audible throughout the area?**
- 8. All fire doors (escape staircase only) closed?**
- 9. All auto locking and door release working?**
- 10. No unauthorized re-entry?**

- Appendix A-III : Welding and Hot Works**
- Appendix A-IV : Fire Precautions during Oxygen Storage**
- Appendix A -V : Planning and Management Guide for Public Assembly Events**