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TERI School of Advanced Studies Policy on Health, Safety and Environment

PREAMBLE

- 1. Care for the safety and welfare of the employees is an important requirement of any organization. TERI School of Advanced Studies has an overriding commitment to health, safety, environmental responsibility and sustainable development. It, therefore, takes appropriate measures to deliver value in these terms across all its facets.
- 2. As with any other aspect, health, safety and maintenance of environment don't just happen. To be effective, they must be planned and managed. Working conditions, activities, equipment, people, products and services have all been considered as potential sources of risk and arrangements have been put in place to identify the hazards and reduce risks to levels that are considered to be reasonably practicable. Thus TERI School of Advanced Studies has set a clear direction for achieving compliance with health, safety and environment regulations and created an ongoing culture of continuous improvement. For achieving its goal, TERI School of Advanced Studies has the positive involvement of all levels of management, and the active participation and support of its employees.

AIM

3. The aim of this document is to lay down TERI School of Advanced Studies' policy for Occupational Health and Safety Assessment Standards (OHSAS) of TERI SAS as well as the impact of University activities on the environment and the procedure to be followed for their compliance.

SCOPE

4. This policy manual pertains to the premise of TERI School of Advanced Studies, Vasant Kunj at New Delhi.

DEFINITION OF HEALTH, SAFETY AND ENVIRONMENT POLICY STATEMENT

- 5. Effective health, safety and environment policy serves to demonstrate TERI SAS commitment towards eliminating work related accidents, injuries & health effects and limit the impact of activities on the environment. Environmental stewardship and employee safety & health are crucial success factors. TERI SAS believe that achieving these is necessary for the long-term viability of the institution. Therefore, the following long-term strategic OHSAS goals to guide our activities have been established:-
 - Create sensitivity and awareness towards Health, Safety and environment matters.
 - Establish commitment to care for the health, safety and welfare of everyone who is impacted by University's activities
 - Demonstrate TERI SAS commitments by incorporating OHSAS principles in work practices and day-to-day lives.
 - Determine, evaluate and monitor work place factors affecting the environment, safety and health of the employees.
 - Comply with all applicable laws, regulations and standards and practices governing OHSAS.
 - Engage and educate employees to implement this policy and encourage them to further contribute to the achievement of OHSAS goals.
 - Demonstrate commitment to continuously improve OHSAS performance by setting objectives and targets.
 - Establish audit procedures to monitor the implementation of this Policy.
- 6. In line with these goals, TERI School of Advanced Studies has developed a framework for OHSAS management system that helps in implementation of this policy. Procedures and programs have been adopted to provide a safe working environment.

HEALTH

Risk Assessment

- 7. Affected Segments: TERI School of Advanced Studies Employees, Students, Visitors.
- 8. **Causes:** Health of TERI School of Advanced Studies employees could be affected due to the following reasons:
 - a. Exposure to poisonous/ hazardous chemicals and other material
 - b. Injuries due to accident
 - c. Existing or acquired disease
 - d. Consumption of spurious food and beverages
 - e. Neglect or delay in treatment of minor injuries/ ailments
 - f. Unhygienic and unclean environment
 - g. Work-related stress
- 9. Effects: Ill health would have the following effects:
 - a. Disruption in normal functioning due to absence
 - b. Lower working efficiency
 - c. Low morale
 - d. Risk to the health of others
 - e. Higher medical expenditure

Preventive Measures

- 10. TERI School of Advanced Studies depends mainly on the limited human resources for its performance. Health of TERI SAS Community therefore, is an essential consideration for increasing TERI SAS output. It is important to take all measures to prevent health hazards and enable a healthy workforce. Prevention is better than cure. Occupational health management is far more than a medical issue. It primarily looks into managing exposures that can lead to ill health caused by work, or even looking for its early signs.
- **11.** The following steps are being taken to maintain good health within TERI SAS:
 - a. Pre-employment health assessment by employee.

- b. Regular health check by physician.
- c. Periodic fumigation of working space.
- d. Use of safety measures during handling and disposal of hazardous and poisonous chemicals and other material. The concerned staff is regularly trained for this. (Separate Lab Manual exists)
- e. Maintaining the infrastructure and equipment through AMC to prevent accidents.
- f. Creating health awareness among all employees through health camps.
- g. Provision of purified drinking water.
- h. Sourcing of food and beverages only from hygienic and highly reliable sources.
- i. Training selected staff in administration of first aid.
- j. Invited talks on preventable diseases, stress management, etc.
- k. Guided visits to work areas by Visitors.
- 1. Maintenance of utmost cleanliness and hygienic conditions in workspace.

Remedial Actions

- **12.** In spite of all the precautionary measures, diseases and bad health occurrences cannot be ruled out. The following remedial actions are taken to mitigate the impact of ill health.
 - a) **Provision of First Aid:** The first aid box is maintained on ground floor & Laboratories. This would normally be administered by the staff trained on first aid. However, in their absence, anyone else may do so. Guidelines on first aid measures are given in **Annexure A**.
 - b) **Medical Consultation:** For routine medical consultation during working hours, a doctor is available free of charge under arrangements on every Wednesday.
 - c) **Vehicle:** For any emergency, university vehicle is provided with a designated driver for evacuation of the patient to the hospital. All other help as required is also provided.
 - d) **Medical Insurance:** All university employees and their families are insured by TERI SAS for meeting hospitalization and outpatient treatment expenses to a limited level. Employees are to be encouraged to top-up their coverage.
 - e) **Medical Allowance:** For meeting the immediate expenses towards medical treatment purchase of medicines and for disease preventive measures such as vaccinations, a special package is being provided to all employees.
 - f) **Grievance Redressal.** Grievance Redressal mechanism is in place to address work-related stress.

Corrective Actions

13. Health and associated occupational illness remain the key focus areas.

SAFETY

Risk Assessment

- 14. Affected segments: TERI School of Advanced Studies employees, Students, Visitors, computer hardware & software, laboratory equipment, chemicals & consumables, buildings including fixtures, furniture, & infrastructure, documents and records, library books, stores, etc.
- **15. Causes:** The issue of safety has become a key concern among people. We are constantly exposed to dangers and occupational hazards which could affect the safety of personal and maTERIal. Causes for safety hazards within TERI SAS are given below:
 - **a. Fire:** This could result from electrical short circuit, chemical reactions & spillage of flammable solvents, malfunctioning of hot equipment such as ovens, naked flame, etc.
 - b. Accident: Due to the fall of personnel, equipment or other maTERIal.
 - **c. Exposure to** chemicals: Due to working with hazardous chemicals without adequate protection.
 - d. Fumes: Caused by chemical reactions and leakages.
 - e. Electrocution: Due to failure of electrical wire insulation, use of damaged electrical equipment, failure of earthing circuits, voltage spikes, etc.
 - f. Earthquake: New Delhi falls under Seismological Zone IV, which is a high risk zone.
 - g. Lightning: This is more prevalent during the monsoon season.
 - h. Construction work or Repairs
- **16. Effects:** The effects would vary vastly based on the nature of the hazard. The following effects could occur:
 - a. **Fire:** Depending upon the source and location of the fire, it could result in burn injuries, smoke asphyxia and secondary injuries to personnel. This could also result in damage or destruction of equipment, documents, books, maTERIal, stores and buildings. If not controlled immediately, fire can spread fast and cause a disaster.
 - b. **Accident:** These could incapacitate personnel due to bodily injuries. Equipment and instruments may also be damaged
 - c. **Exposure to chemicals:** Can result in skin rashes, blisters, acid burns, etc. Radioactive maTERIal could cause dangerous radiation levels.
 - d. **Fumes:** Inhalation of toxic fumes could result in fatal injuries, suffocation, burning sensation in eyes, etc.
 - e. **Electrocution:** Results in shock and severe exposure can cause paralysis/ death. IT equipment and sensitive instruments may be damaged resulting in data loss and communication breakdown.

- f. **Earthquake:** This can cause large scale destruction to buildings resulting in loss to life, injuries, damages to equipment, instruments, etc.
- g. Lightening: Results in fire and electrical discharge.
- h. Construction & Repairs work : Results in risks involved in the particular area.

Preventive Measures

- 17. Adequate preventive actions can save a lot in both tangible and non-tangible terms.
- **18.** The following measures are being taken for the safety of personnel and material:
 - a) **Training on safety procedures Safety mail for TERI SAS members & signages:** On the occasions of major repair work or maintenance work or any other event which may cause possible danger to people in the vicinity a safety mail to be sent by HSE officer to all members of the community indicating the locations to be avoided. **Signages are to be used to barricade such areas.**
 - b) **Safety briefing for visitors.** The HSE officer will take adequate measures to ensure visitors visiting various facilities are briefed adequately about safety precautions required for the area.
 - c) Automatic Fire Detection and Alarm system: This system installed in TERI SAS has sensitive smoke/ heat detectors which are connected to the Fire Alarm panel located on the ground floor of Admin Block. Fire Detection and Alarm Systems are given in Annexure B.
 - d) **Fire Fighting Equipment:** Adequate fire- fighting equipment to include fire hydrant systems and fire extinguishers has been installed at appropriate locations. Details of the Alarm Systems and Fire- Fighting equipment are given in **Annexure C**.
 - e) Training in Fire-Fighting Drills: Technical department periodically conducts firefighting practice in University Campus in which all employees actively participate. The relevant Fire Order & other instructions related to training and evacuation plan are placed at Annexure D.
 - f) The doors of all rooms housing electrical distribution panels and the generator rooms have been painted with fire resistant paint.
 - g) **Maintenance of Equipment:** All equipment is regularly inspected by the AMC agency and the lab supervisors. Particular care is taken for checking the functioning of controlling devices such as gas container valves, electrical tripping devices, etc.
 - h) **Institutional Bio Safety Committee(IBSC):** Committee formed as per guidelines issued by DBT to ensure that all activities conducted comply with Rule 1989 and other guidelines issued by DBT.
 - i) **Laboratory Safety Measures:** Laboratories can be a major source of threat to the safety of personnel as well as maTERIal if proper precautions are not taken. It is, therefore, essential that adequate guidelines are laid down and enforced for the handling, storage and disposal

of chemicals and laboratory-ware. The important precautionary measures taken are listed below:

- I. **General Lab Instructions:** Relevant instructions on good lab practices are placed at appropriate locations and Notice Boards.
- II. **Fume Hood:** Adequate fume hood has been provided for removal of toxic fumes and vapors.
- III. **Fumigation Protocols:** A suitable and citable fumigation protocol has been put in place to keep labs free from microbes.
- IV. **Protective Equipment**: Suitable aprons, gloves, trays, etc. are provided for working with chemicals.
- V. **Safety Instructions:** Safety instructions for handling and use of chemicals, glassware, gases and radioactive material have been defined. Users are being trained and made aware to adhere to these instructions. UGC guidelines in this aspect are referred.
- VI. **Electrical Equipment:** Adequate safety precautions are taken to safeguard against electrical problems and dangers.
- VII. **Cleanliness:** The laboratory working area is well maintained and kept neat and clean to prevent accidents.
- VIII. License: License from Excise , NCT of Delhi for alcohols obtained and materials stored as per suggestions of inspector.
 - IX. **Bio Safety Standard and Certificate.** For growing transgenic plants Biosafety standard is maintained.
 - X. Biosafety Cabinet. Biosafety cabinet used for avoiding exposure.
- j) **Maintenance of buildings** and **infrastructure:** To prevent accidents, the building structures and infrastructure are constantly inspected and properly maintained.
- k) **Periodic Repair of Scientific Equipment.** Periodic repair of scientific equipment carried out.
- 1) **Signage.** Laboratory signs pasted at appropriate location in the lab.
- m) **Backups:** All important documents, files and records have been identified. Their soft copies are backed-up on the server and CD's at fixed periodicity and retained in safe custody.
- n) **Formation of Recovery teams:** A team has been created for recovery during major disasters. The roles and responsibilities of the team are laid down in **Annexure E**.
- o) **Insurance:** All buildings, laboratory equipment, computer hardware, stores and vehicles are appropriately insured. All the documents required by the insurance company for preferring the claims have been safely stored in bank lockers.

Remedial Actions

- a) **Rescue and Relief:** The effected personnel are first rescued from the danger areas to safe locations. Thereafter, appropriate treatment is provided by administrating first aid or evacuating to the hospitals, as required.
- b) **Salvage:** Effected equipment, documents, stores and other material will be salvaged as per predetermined priority list and brought to a safe location.
- c) **Assessment of Damage:** The damage caused due to the safety hazard will be assessed in conjunction with the insurance agency. Thereafter claims would be preferred with the insurance agency.
- d) **Restoration and Recovery:** A planned restoration of the damaged equipment and assets will be carried out. Wherever required replacement items will be procured so that the original functionality is restored.
- e) Treatment. Treatment processes laid down at Annexure A.

Corrective Actions

- **20.** After any major incident, a detailed investigation will be conducted to determine the cause. If the building is likely to be damaged due to the incident, then a structural survey should also be conducted. Based on this investigation, corrective actions would be immediately carried out to prevent repetition of similar incidents.
- 21. All minor incidents are being recorded on occurrence. At the end of each financial year, these incidents are analyzed to determine the corrective actions which are required to be taken. Based on this the necessary actions to prevent/ minimize such incidents are put in place. Measures are taken to promote and reinforce responsibilities and a general safety conscious culture.

ENVIRONMENT

Risk Assessment

- **22.** Affected segments: TERI School of Advanced Studies employees, Students, Visitors, Personnel in neighboring buildings and offices in immediate vicinity.
- **23. Causes:** Environment can be adversely effected by a number of agents. The possible causes that can emanate are given below:
 - a) Air pollution due to smoke, gases, Vapour and solid particles
 - b) Waste water
 - c) Used chemicals
 - d) Solid waste maTERIal
 - e) Biological leakages
- 24. Effects: The environment pollutants can result in harmful effects in human beings, which could, in extreme cases of toxicity, also result in fatal damages. Non-poisonous and harmless waste material can also result in destroying the natural beauty of the surrounding areas.

Preventive Measures

- 25. TERI School of Advanced Studies is located in the posh environment of Vasant Kunj, New Delhi closed to Aravali biodiversity Park. Such unique location is associated with the excellence of local human resources and the harmonious lifestyle and It is, therefore essential to take all precautions and prevent any damage to the environment. The steps being taken by TERI School of Advanced Studies towards this end are given below:
 - a) **Laboratory Emissions:** All polluting gases, vapours, solid particles, etc. are released only through fume hoods so that they escape into the higher regions of the atmosphere and do not affect the existing habitation.
 - b) **Air Monitoring:** The air in the vicinity of University Campus is being regularly monitored by TERI School of Advanced Studies for impurities and suspended solid particles.
 - c) **Storage of Waste Chemicals:** Waste chemicals stored in containers are being labeled prominently. Bucket containing hazardous wastes have Red labels marked "hazardous waste". The waste containers are properly segregated such that incompatible bottles of wastes are stored in separately, preferably as far apart as possible.

- d) **Disposal of Waste Chemicals:** If chemicals are disposed by pouring into the sink, they are first diluted.
- e) **Waste management:** All chemical waste is being disposed off under arrangements of the Materials manager after observing all the safety precautions.
- f) **Biological Experiments:** All experiments involving use of bacteria/ viruses are performed under highly controlled conditions.
- g) **Bio hazard waste disposal mechanism**: Agreement signed with Delhi Govt (DPCC) authorized agency to dispose off biohazard chemical waste.
- h) Solid Waste: These are collected daily and disposed off.

Remedial Actions

- **26.** Adequate precautions have been taken to prevent contamination of the environment due to any of its activity. However, due to malfunctioning of any system, pollution of the environment does take place; the following remedial actions are taken to mitigate the ill effects:
 - a) If smoke, fumes or gases leak out of the exhaust system into the buildings, the following actions are taken:
 - I. All personnel **are** advised to get out of the building and assemble in the open area.
 - II. The air-conditioning system is shut off to prevent spread of the pollutants to other areas and buildings by enTERIng the ducts.
 - III. All windows and doors are opened for ventilation.
 - IV. The concerned laboratory in-charge along with technical staff locates the source of the pollutant and rectifies the system.
 - b) If any container of chemicals or waste chemicals spills, action for neutralizing the effects of this should be as per the Safety data sheet of that chemical. This should only be handled by the competent staffs who know about the specific chemicals. Any wrong action can further aggravate the problem.
 - c) First aid should be administered to the effected personnel, who should thereafter be evacuated to the nearest hospital for further examination and treatment.

Corrective Actions

27. After any incident, an investigation will be conducted to determine the cause and preventive measures. Based on this investigation, corrective actions would be immediately initiated to prevent recurrence of similar incidents.

- **28.** Communication is a vital factor, enabling people in the organization to be aware of their responsibilities, aware of the objectives of the scheme so that they are able to contribute to its success. It also stimulates everyone's interest in the importance and benefits of health and safety.
- **29.** Suitable communication channels already exist. These have been extended to include health, safety and environment aspects also. The following steps have been taken to effectively communicate with all the employees of TERI SAS:
 - a) **Policy Manual:** The HSE policy manual has been placed on the intranet and is available to everyone for reference
 - b) **Awareness Campaign:** All Employees are made aware of the importance of the salient aspects during meetings at least once a year.
 - c) **Laboratory Training:** Special training sessions are conducted for the faculty & students working in the laboratories to educate them on laboratory safety.
 - d) **Induction Training:** All newly inducted Faculty and Fresh Students are apprised about the policy during the induction training.
 - e) **Dedicated Notice Board:** A dedicated health and safety notice board has been installed in a prominent location on floor. It contains the HSE Policy. It also has details of important addresses and contact numbers such as hospitals, ambulance, blood bank, police, etc.
 - f) All important emergency contact numbers are prominently displayed at the reception and noticeboards.

REPORTING AND DOCUMENTATION

Documentation Control

30. All matters pertaining to Health, Safety & Environment will be handled and controlled by the Secretory, HSE Advisory Committee. He would ensure that proper records are maintained of all incidents indicating the actions taken against each.

Reporting

31. The following incidents will be reported to the Health, Safety & Environment officer:

- a) Accidents or other incidents requiring first-aid treatment/ hospitalization
- b) All cases of fire
- c) Uncontrolled leakage of toxic gases, fumes or vapours
- d) Spillage of chemicals, radioactive maTERIal or other hazardous maTERIal
- e) Incidents which have resulted in an adverse effect upon the
- f) health of employees.
- g) Electric shocks.
- h) Damage to equipment or instruments.
- i) Structural **damage** to buildings or infrastructure.

Review

- **32.** It is essential to periodically review the Health and Safety Policy to ensure that it continues to be up to date and relevant. Regularly reviewing also helps to keep it alive and provides opportunities to reinforce the importance of health, safety and environment for everyone in the organization.
- **33.** Review of the policy manual is being carried out once a year at the end of the financial year. During this review the effectiveness of the procedures and measures already in place for controlling risks to Health, Safety and environment are examined and changes made where required. Analysis of the records pertaining to the last one year is also carried out to determine corrective actions that may be required.
- **34.** The management review is the ideal forum to make decisions on how to improve our systems for the future.

Conclusion

35. One of TERI School of Advanced Studies' great strengths is the commitment of all the employees continuously look for ways to improve all aspects of work. Looking ahead, we aim to continue improving performance, working together for a sustainable future for the benefit of all stakeholders as well as Students.

Annexure 'A' (Refers to Para 12 a)

FIRST AID

- 1. First aid is the initial assistance or treatment given to a casualty for any injury before the arrival of a doctor /other qualified person or before the evacuation to hospital. The aim of first aid is to
 - (a) Preserve life
 - (b) Prevent the condition worsening
 - (c) Promote recovery
- 2. A list of the common injuries that can be sustained while working in the laboratory and the first measures are given below

LIST OF COMMON INJURIES AND FIRST AID MEASURES

Burns:

First Degree

- (a) Signs /Symptoms: Reddened Skin
- (b) Treatment: Immerse quickly in cold water or apply ice until pain stops

Second Degree

- (a) Signs /Symptoms: Reddened skin blisters
- (b) Treatment:
 - 1) Cut away loose clothing
 - 2) Cover with several layers of cold moist dressings or if limb is involved immerse in cold water for relief of pain
 - 3) Treat for shock

Third degree

- (a) Signs/Symptoms: Skin destroyed, tissues damaged, charring
- (b) Treatment:

- 1) Cut away loose clothing (do not remove clothing adhered to skin)
- 2) Cover with several layers of sTERIle, cold, moist dressings for relief of pain and to stop burning action
- 3) Treat for shock

Chemical Burns

Acid Burns:

- a) Immediately wash with plenty of plain water
- b) If soda bi carb (baking powder) is available, make its solution (two tea spoons in half liter of water) and wash affected area
- c) Again wash thoroughly for at least twenty minutes
- d) Remove victim's clothing because chemical may be retained

Alkali Burns:

- a) Wash with plenty of water
- b) Then wash with a weak solution of Vinegar in water
- c) Again wash thoroughly with water for at least twenty minutes

General care for all burns:

- a) Separate any burned areas that might come in with each other when bandaging (fingers, toes, ear and head)
- b) Do not break blisters
- c) Do not use ointments
- d) Get medical attention as soon as possible
- e) AdminisTERIng liquids: If medical help is not available within an Hour and the victim is conscious and not vomiting and requests something, give him ½ glass solution of 1/teaspoon salt.1/2 teaspoon baking soda to a quart of water, every 15 minutes.

Eye Injuries

Foreign bodies in the eye

- (a) Never rub eyes
- (b) Try to flush out with clean water
- (c) If object is on the upper lid, lift eyelid and remove object with sTERIle Gauze
- (d) If foreign object cannot be removed, cover eye till a doctor attends to Victim

Impaled objects

- (a) Cover with paper cup to protect the eye and prevent object from being further driven and prevent object from being further driven into it
- (b) Leave object in victim; it should only be removed by a doctor
- (c) Place sTERIle gauze around eye, apply no pressure
- (d) Cover both eyes, and explain to the victim why both eyes are covered, one eye cannot move without the other eye moving, Calm and reassure the victim-he may panic with both eyes covered

For chemical burns to the eyes, see Burns-chemical above

Poisons

If unconscious

- (a) Do not induce vomiting.
- (b) Put him in 'recovery position' i.e. lye on his side
- (c) If breathing is inadequate give artificial respiration

If conscious

- (a) Give plenty of water to drink.
- (b) Induce vomiting except for acids, corrosive poison or a petroleum product. Vomiting may be induced by pharyngeal irritation by finger or spoon or by salt water (two spoons of salt in half a litre of water).
- (c) If the poison is gas or vapour, immediately move to an open space with fresh air.
- (d) In case of acids neutralize with cream of magnesia or calcium hydroxide 56 gm. to one ounce of warm water or soda bicarbonate or chalk.
- (e) In case of alkalis neutralize with vinegar or lemon juice. Do not induce vomiting and give plenty of water to drink.

Sr.	Name of Medicines	Name of Medicines Remedies	
No			
TABL	ETS		
1.	AVOMINE	Vomiting	1 strip
2.	CROCIN PLUS	Fever	1 strip
3.	PARACETAMOL	Fever with body pain, shivering	1 strip
4.	DIGENE	Gastric	1 strip
5.	DISPRIN	Headache, body pain	1 strip
6.	PUDHIN HARA		1 strip
7.	TEAR PLUS	Eye cleansing	1 bottle
8.	GLUCON-D	Instant energy	500g (1 pack)
ANTIS	SEPTIC CREAM AND BANDAGE	3	1
9.	BURNOL	Applying on burnt skin	1
10.	TRIPLE ANTIBIOTIC		1
	OINMENT		
11.	BETADINE	Applying on injured/ cut body parts	1
12.	BAND-AID	For cuts	1 box
13.	ADHESIVE TAPE	For covering cuts/injuries	1 roll
14.	COTTON ROLL		1 roll
15.	ZANDU BALM	For Cold, body Pain, Headache	1 bottle
16.	VOLINI SPRAY	Muscular Pain	1 bottle
ACID	AND ALKALI SPLASHES ON SE	CIN AND ON EYE	
17.	SODIUM CARBONATE-5%	Neutralizing acid spills on skin	1 bottle
18.	SODIUM BICARBONATE- 2%	Neutralizing acid spills on skin	1 bottle
19.	BORIC ACID- SATURATED	Neutralizing acid spills on skin	1 bottle
	SOLUTION		
20.	ACETIC ACID	Neutralizing acid spills on skin	1 bottle
21.	EYE DROPS	Eye	1 bottle
22.	GOGGLES	Eye Protection	1
23.	RUBBER GLOVES	Protector	1
ACCES	SSORIES		
25.	SAVLON	Cleaning injured body parts	1 bottle
26.	STERILE SCISSORS	Accessories	1

List of Medicines in First Aid Box and Remedies

1. Fire Detection and Alarm System at TERI School of advanced Studies.

Annexure 'B' (Refers to Para 18 a)

Alarm Systems

	Alert Systems installed								
Location	Pre Alarm	Fire Detector	Fire Hooter	Response	Manual				
	System			Indicator	Call Point				
Academic Block									
Ground Floor	02	56	02	26	02				
1 st Floor	-	48	02	24	02				
2 nd Floor	-	48	02	24	02				
3 rd Floor	-	40	02	20	02				
4 th Floor	_	32	01	16	01				
Admin Block									
Ground Floor	_	18	01	09	01				
1 st Floor	-	28	01	14	01				
2 nd Floor	-	24	01	12	01				
3 rd Floor	-	04	01	02	01				
CafeTERIa Bloc	k	_							
Ground Floor	-	12	01	-	01				
1 st Floor	-	12	01	-	01				
2 nd Floor	_	12	01	-	01				
3 rd Floor	-	12	01	-	01				
4 th Floor	-	12	01	-	01				
Hostel Block									
Ground Floor	-	-	01	-	01				
1 st Floor	-	-	01	-	01				
2 nd Floor	-	-	01	-	01				
3 rd Floor	-	-	01	-	01				
4 th Floor	-	-	01	-	01				
Office Block (E	DAS)								
Ground Floor	01	30	01	-	01				
1 st Floor	-	30	01	-	01				
2 nd Floor	-	30	01	-	01				
3 rd Floor	-	30	01	-	01				
Basement and P	eriphery								
Basement	-	19	04	-	04				
Total	03	497	31	147	31				

2. TERI School of advanced Studies Facilitated Fire Fighting Systems

TERI School of advanced Studies has been provided with appropriate fire- fighting equipment placed at different locations such that can be easily approach to use in case of emergency.

Annexure 'C' (Refers to Para 18 b)

Location	Number of Fire Extinguishers installed						
	CO ₂	CO ₂	ABC	ABC	DCP	Foam	Water
	4.5 KG	22.5 KG	2KG	5KG	5KG	9 Liters	9 Liters
Academic Block							
Ground Floor	01	-	03	01	01	-	01
1 st Floor	02	-	-	-	01	-	02
2 nd Floor	02	-	-	-	01	-	02
3 rd Floor	01	-	-	01	01	-	03
4 th Floor	01	-	-	01	01	-	02
Admin Block							
Ground Floor	03	-	-	-	-	-	-
1 st Floor	01	-	-	-	-	-	01
2 nd Floor	-	-	-	-	02	-	-
3 rd Floor	-	-	-	-	01	-	-
Chula Lab	-	-	-	-	-	-	01
CafeTERIa Blo	ck						
Ground Floor	01	-	-	-	-	-	01
1 st Floor	01	-	-	-	01	-	01
2 nd Floor	01	-	-	-	-	-	01
3 rd Floor	01	-	-	-	-	-	01
4 th Floor	01	-	-	-	-	-	01
Hostel Block							
Ground Floor	01	-	-	-	-	-	01
1 st Floor	01	-	-	-	01	-	01
2 nd Floor	01	-	-	-	-	-	01
3 rd Floor	01	-	-	-	-	-	01
4 th Floor	01	-	-	01	01	-	01
(Solar / M							
Tech Lab)							
Office Block (E	DAS)						
Ground Floor	02	-	-	-	-	-	02
1 st Floor	02	-	-	-	-	-	02
2 nd Floor	02	-	-	-	-	-	02
3 rd Floor	02	-	-	-	-	-	02
Basement	04	19	-	-	03	02	03

Fire Extinguishers

D G Yard	-	-	-	-	-	02	-	
Transformer	-	01	-	-	03	-	-	
Yard								
Canteen	-	-	-	01	-	-	-	
Back Side								
Electrical	-	-	-	01	-	-	-	
Store								
Total	33	20	03	06	17	04	33	
Grand Total	116							

Annexure 'C' (Refers to Para 18 b)

Fire Hydrant

Location	Hydrant	Hose Reel	Hose	Pipe	No	zzle
			15 m	7.5 m	Branch	Shut Off
Academic Block						
Ground Floor	01	01	02	-	01	01
(Stair Side)						
Ground Floor	01	01	02	-	01	01
(Toilet Side)						
1 st Floor	01	01	02	-	01	01
(Stair Side)						
1 st Floor	01	01	02	-	01	01
(Toilet Side)						
2 nd Floor	01	01	02	-	01	01
(Stair Side)						
2 nd Floor	01	01	02	-	01	01
(Toilet Side)						
3 rd Floor	01	01	02	-	01	01
(Stair Side)						
3 rd Floor	01	01	02	01	01	01
(Toilet Side)						
4 th Floor	01	01	02	-	01	01
(Stair Side)						
4 th Floor	01	01	02	-	01	01
(Toilet Side)						
Terrace	01	-	02	-	01	-
(3 rd Floor)						
Terrace	01	-	02	-	01	-
(4 th Floor)						
Admin Block						
Ground Floor	01	01	02	01	01	01

1 st Floor	01	01	02	01	01	01
2 nd Floor	01	01	02	01	01	01
3 rd Floor	01	01	02	02	01	01
Terrace	01	-	02	-	01	-
CafeTERIa Block						
Ground Floor	01	01	02	01	01	01
1 st Floor	01	01	02	01	01	01
2 nd Floor	01	01	02	02	01	01
3 rd Floor	01	01	02	02	01	01
4 th Floor	01	01	02	02	01	01

Annexure 'C' (Refers to Para 18 b)

Fire Hydrant

Location	Hydrant	Hose Reel	Hose 15 m	Pipe 7.5 m	Nozzle Branch Shut Off	
Hostel Block						
Ground Floor	01	01	02	01	01	01
1 st Floor	01	01	01	01	01	01
2 nd Floor	01	01	01	01	01	01
3 rd Floor	01	01	01	01	01	01
4 th Floor	01	01	02	01	01	01
Office Block (EDAS)		•				
Ground Floor	01	01	02	-	01	01
1 st Floor	01	01	02	-	01	01
2 nd Floor	01	01	02	-	01	01
3 rd Floor	01	01	02	-	01	01
Terrace	01	-	02	-	01	-

Basement								
Stair	01	01	02	-	01	01		
Academic side								
Stair	01	01	01	02	01	01		
EADS Side								
	01	01	01	02	01	01		
Out Ramp Side								
Stair	01	01	02	-	01	01		
Admin Block								
Campus Boundary								
Location -1	01	-	02	-	01	-		
(Entry Gate)								
Location -2	01	-	02	-	01	-		
Location -3	01	-	02	-	01	-		
Location -4	01	-	02	-	01	-		
Location -5	01	-	02	-	01	-		
Location -6	01	-	02	-	01	-		
Location -7	01	-	02	-	01	-		
Location -8	01	-	02	-	01	-		
Location -9	01	-	02	-	01	-		
(Exit Gate)								
Total	45	32	84	21	45	32		

Annexure 'D' (Refers to Para 18 c)

1. Fire safety

TERI School of advanced Studies has been provided with Automatic Fire detection and Alarm System having sensitive Addressable Smoke Detectors and Heat Detector which are connected to Zone Fire Alarm panels located in the ground floor of Admin Block in the TERI School of advanced Studies Campus and all these control panels are centrally connected. The detectors are evenly spread out to cover all the floors in the TERI School of advanced Studies Campus and alarm. The Round O'clock Technician on duty in the TERI School of advanced Studies has the provisions and standing instructions to alert all concerned personnel for prompt necessary action in case of any fire emergency with the help of the public address system installed in the Reception. In addition to the Automatic Detection System, all cores of the TERI School of advanced Studies Campus have Addressable Manual Call Points on each floor, which can be activated (by breaking the glass panel) personally by any occupant of the building to call the fire personnel.

2. Fire order

In Case of Fire, Marshals and Fighters

- Raise Fire Alarm
- Inform Reception
- Reception inform Fire Officer
- > Reception also inform Fire Brigade at Telephone
- Break nearby MCP
- Marshals and Fighters position themselves
- > Fighters use portable Fire Fighting Equipment
- > Marshals Evacuate and Guide the people for Nearest Emergency Exit

In Case of Fire, TERI School of advanced Studies Community

- ➢ Way to Nearest Emergency Exit
- ➢ Walk; Do Not Run
- Do Not Use Elevators
- > Close But Do Not Lock All Doors as You Leave
- Remain Calm; Do Not Panic
- Remain Low; Crawl if Necessary
- Assemble at Existing Assembling Point Outside the Main Gate
- Stay Clear of the Building until Your Appointed Fire Marshal has advised You to Re-Enter the Building
- Assist Visitors During Alarm/ Emergency

3. Training in Fire Fighting Drill

TERI School of advanced Studies has actively involved in in-house as well as outdoor fire drills for awareness of employees and students.

Tentative schedule

Session 1	Briefing Session fire and safety assessment in TERI School of advanced					
	Studies					
Session 2	Classroom Training on Fire Fighting (in house)					
Session 3	Mock Drill (in house)					
Session 4	Fire Drill (in house)					
Session 5	Fire Lecture on awareness and fire drill by fire Inspector, Delhi fire					
	Control					

Fire Fighting Training

As part of HSE (Health Safety and Environment) initiative

TERI SAS Disaster Management Team conducts Fire Safety Awareness and Fire Fighting Training for TERI SAS Community on periodic basis.

1. Fire Drill Session(format for maintaining record of training):

Date	Time	Fire Drill Description	Fire Session
			By

2. Format for Fire Drill Session Attendance sheet:

Sr.	Name of	Signature	Sr.	Name of	Signature
Nos.	Participant		Nos.	Participant	
1			28		
2			29		
3			30		
4			31		
5			32		

6	33	
7	34	
8	35	
9	36	
10	37	
11	38	
12	39	
13	40	
14	41	
15	42	
16	43	
17	44	
18	45	
19	46	
20	47	
21	48	
22	49	
23	50	
26	53	
27	54	























































Exit Signage

Exit signage are fixed on wall at different area of each floor in all blocks. These signage are to guide to exit safely in case of any incident.

Annexure 'E' (Refers to Para 18 i)

Rescue and Safety Team

Sr.	Name	Block	Floor	Duties	
1.	H R Gupta	Academic	Ground	Secure Precious Lab Items, isolate power and Evacuate	
2.	Nirmal Kumar	Academic	Ground	Evacuate classrooms. labs and guide to evacuate	
3.	Clean Culture Boy 1	Academic	First	Evacuate classrooms. labs and guide to evacuate	
4.	Ratan Jha	Academic	Second	Secure important journals, documents and books and evacuate Library	
5.	Umesh	Academic	Second	Evacuate Library and classrooms and guide to evacuate	
6.	Yogesh	Academic	Second	Secure Precious IT Items, isolate power and evacuate	
7.	Clean Culture Boy 2	Academic	Third	Evacuate classrooms. labs and guide to evacuate	
8.	Dhanraj Singh	Academic	Fourth	Secure important accounts document and ledgers and evacuate	
9.	Shashank	Academic	Fourth	Secure Precious Lab Items, isolate power and Evacuate	
10.	Murgan	Academic	Fourth	Evacuate classrooms. labs and guide to evacuate	
11.	Bala	Admin	Ground	Secure important documents and Files in Pro V C Office and evacuate work station	
12.	Veena	Admin	Ground	Secure important documents and Files in V C Office and evacuate work station	
13.	Betty	Admin	Ground	Check ground floor and guide people to evacuate building	
14.	Dories	Admin	First	Secure important documents and Files in AGM Office and evacuate work station	
15.	Preeti	Admin	First	Secure important documents and Files in admin and evacuate work station	
16.	Sunil	Admin	First	Secure important documents and Files at Manager Admin office and evacuate work station	
17.	Ganesh	Admin	First	Secure important documents and Files and evacuate work station	

Fire Marshals and Their Duties

18.	Devinder	Admin	Basement	Check basement work station and guide	
				people to evacuate building	
19.	Lady Guard	Hostel	Floors	Check all rooms , assist a needy and guide	
				to evacuate Hostel floors	
20.	Akhilesh	Admin	Second	Evacuate 2 nd floor and guide to evacuate	
21.	Krishana	Admin	Third	Evacuate 3 rd floor and guide to evacuate	
22.	Jyoti	Admin	Basement	Check basement work station and guide	
				people to evacuate building	
23.	Vidhya	Admin	Basement	Check basement work station and guide	
				people to evacuate building	
24.	Ramesh	Admin	CafeTERIa	Evacuate 3 rd and 4 th floor and guide to	
				evacuate	
25.	Chand	Admin	CafeTERIa	Evacuate ground and 1 st floor and guide to	
				evacuate	
26.	Technician 1	Admin	Electrical	Rush to LT / HT panels and ready to cut off	
			Cell	the power if fire is uncontrollable	

Fire Fighters and Their Duties

Fire Fighter	rs with Fire Extinguisher	Fire Fighters with Fire Hydrant		
Name	Duties	Name	Duties	
Technician 2	Reach at the fire event place	Technician 3	Reach at Fire Hydrant	
Guard 1	and attempt to extinguish the	Jitendra Bisht	nearest to Fire Point and get	
Sudhanshu	fire or call fire brigade (101) if	Sushil	ready to operate	
Rajesh Thakur	fire appears to be	Guard 2		
Vikas Prasad	uncontrollable	Bikram Dogra		