



Sarvajani Education Society

SARVAJANIK UNIVERSITY

Sarvajani College of Engineering and Technology

Electrical Engineering Department



Report

on

Awareness Session on Electrical and Fire Safety in association with Torrent Power Limited.



Event Details

- ❖ **Date:** 10th March, 2026
- ❖ **Time:** 11:15 AM to 2:00 PM
- ❖ **Venue:** N.J. Seminar Hall, SCET, Surat
- ❖ **Expert:** Employees from **Torrent Power**
- ❖ **Participants:** Students of B.Tech II, B.Tech III, B.Tech IV, and Chemical Engineering
- ❖ **Organized by:** Electrical Engineering Department of **Sarvajanik College of Engineering and Technology**, Surat.
- ❖ **No of Students Present :** Electrical : 46 Chemica : 52
- ❖ **No of Staff Present :** 08

The Electrical Engineering Department of **Sarvajanik College of Engineering and Technology**, Surat organized an awareness session on electrical and fire safety on **10th March 2026** from **11:15 AM to 2:00 PM** at **N.J. Seminar Hall SCET**. The session was delivered by experts from **Torrent Power**, who shared practical knowledge about electrical safety practices, prevention of electric shock, and fire safety measures followed in the power industry. Students from B.Tech II, B.Tech III, B.Tech IV, and Chemical Engineering actively participated in the program and gained valuable insights into safety equipment, hazard identification, and preventive measures used in professional electrical environments

The awareness session on **Electrical and Fire Safety**, organized in collaboration with Torrent Power, aims to educate and empower students about the importance of safety in electrical systems and workplaces. Electrical energy is an essential part of modern life, but improper handling, poor maintenance, and lack of awareness can lead to serious hazards such as electric shocks, short circuits, and fire accidents. Therefore, developing a strong safety culture is very important for engineers and technical professionals. This session focuses on engaging students through knowledge sharing, educating them about hazard identification, and empowering them with preventive safety practices. By understanding proper electrical safety measures, emergency response methods, and safe operating procedures, students can contribute to creating safer industrial and domestic environments while supporting the broader goal of accident prevention and responsible energy use.



From the perspective of Torrent Power (electricity distribution utility), **Electrical and Fire Safety** in buildings/industries focuses on safe installation, prevention of electrical accidents, and compliance with electrical regulations. Key points are usually checked before giving or maintaining a power connection.

From the perspective of Torrent Power, electrical and fire safety is very important to ensure safe power distribution and to prevent accidents, equipment damage, and fire hazards. Proper electrical installation and maintenance must be followed according to safety standards so that consumers and electrical systems remain protected. The key safety considerations include:

- ❖ **Proper earthing system** for all electrical equipment to avoid electric shock and leakage current.
- ❖ **Use of standard ISI-marked wires and cables** with proper insulation to prevent short circuits.
- ❖ **Installation of protection devices** such as MCB, MCCB, and RCCB to protect against overload and fault conditions.
- ❖ **Safe and enclosed electrical panels** with proper labelling and adequate ventilation.
- ❖ **Availability of suitable fire extinguishers** like CO₂ or dry powder near electrical panels.
- ❖ **Avoidance of overloading beyond sanctioned load** provided by the utility.
- ❖ **Regular inspection and maintenance** of wiring, earthing, and protection systems to ensure safe operation.

These measures help maintain electrical reliability and reduce the risk of electrical fires and hazards in residential, commercial, and industrial installations.

From the perspective of a major utility like **Torrent Power**, electrical and fire safety is built on a "safety-first" culture that balances robust infrastructure with responsible consumer habits. They emphasize a "**Reliable, Responsible, and Resilient**" framework, focusing on the installation of advanced protective gear like **RCCBs (Residual Current Circuit Breakers)** to prevent shocks and **FRLS (Flame Retardant Low Smoke)** wiring to minimize toxic fumes during emergencies. By prioritizing proper grounding and discouraging "spider-web" or unauthorized wiring, Torrent Power aims to mitigate short-circuit risks and ensure that both industrial and residential networks remain secure under load. This utility-driven approach treats safety as a shared duty, where high-performance components and strict adherence to earthing protocols act as the primary defence against electrical hazards.

Employees from **Torrent Power** conducted an informative demonstration on **electrical and fire safety equipment** during the awareness session. They explained the importance of using proper **Personal Protective Equipment (PPE)** while working with electrical systems to prevent accidents and injuries. The experts introduced various safety devices such as **insulated gloves, safety helmets, insulating mats, face shields, and safety shoes**, which are essential for protecting workers from electric shocks, arc flashes, and other electrical hazards. Through this practical demonstration, students were able to understand how safety equipment is used in real field conditions during maintenance and operation of electrical installations



The Torrent Power employees also highlighted important **general safety guidelines** followed in the power industry. They emphasized that electrical work should always be performed only

after proper **isolation of power supply**, verification of voltage using testing devices, and implementation of **Lockout–Tagout (LOTO) procedures**. Workers must always wear appropriate PPE, maintain safe distance from live conductors, and ensure proper earthing and insulation of electrical systems. Regular inspection of tools and equipment, along with proper training in emergency response and fire safety, is necessary to create a strong safety culture in electrical utilities.

From the safety awareness perspective followed by **Torrent Power**, prevention of electrical shock and electrical fire is mainly based on proper safety procedures, trained manpower, and the use of standard protective equipment. Torrent Power emphasizes that before performing any electrical maintenance or operational work, the power supply must be properly isolated and verified using appropriate testing devices. Employees are required to strictly follow safety practices such as using Personal Protective Equipment (PPE) including insulated gloves, safety shoes, helmets, and face shields to protect themselves from electric shock, arc flash, and other electrical hazards. Proper earthing of electrical systems and the use of insulating mats are also essential to prevent leakage current from passing through the human body.

In addition, Torrent Power strongly promotes awareness about safe and unsafe practices while working with electricity. Workers are trained to avoid touching electrical equipment with wet hands, overloading circuits, or using damaged wires and tools, as these conditions can lead to short circuits and fire accidents. Regular inspection and maintenance of electrical installations, correct use of circuit breakers and protective devices, and maintaining safe distance from live conductors are important preventive measures. In case of electrical fire, water should never be used; instead, appropriate fire extinguishers such as CO₂ or dry chemical powder extinguishers must be used. By following these guidelines and maintaining a strong safety culture, Torrent Power ensures the protection of employees, equipment, and the public from electrical hazards.

Glimpse of the Session





During the awareness session, experts from **Torrent Power** actively interacted with the students and explained various aspects of electrical and fire safety. The session was conducted in an interactive manner where students were encouraged to ask questions and clarify their doubts related to electrical hazards and safety practices. Many students participated in the discussion, which helped in creating a better understanding of real-world safety challenges faced in the electrical power sector.

The experts also demonstrated different safety devices and explained their practical use in electrical maintenance and field operations. Through visual demonstrations and presentations, students were able to learn about the importance of using proper protective equipment and following safety protocols while working with electrical systems.

Overall, the session was very informative and engaging, as it provided students with valuable practical knowledge about electrical safety measures, prevention of electric shock and fire hazards, and the importance of maintaining a strong safety culture in the power industry. Such initiatives help future engineers understand the responsibilities and safety standards followed by professional power companies.

Conclusion

The Electrical and Fire Safety Awareness Session was highly informative and beneficial for the students, as it provided practical knowledge about electrical hazards, fire prevention, and safety practices followed in the power industry. The session conducted by experts from **Torrent**

Power helped students understand the importance of safety equipment, preventive measures, and responsible handling of electrical systems.

We sincerely express our gratitude to **Dr. Hitesh K. Mehta**, Head of the Electrical Engineering Department, and **Dr. Hiren H. Patel**, Principal of **Sarvajanik College of Engineering and Technology**, Surat, for organizing and supporting such a valuable event that enhanced the knowledge and awareness of students. We also extend our thanks to all faculty members, supporting staff, and students who contributed to the successful organization of this session and helped make the event meaningful and effective for everyone.