

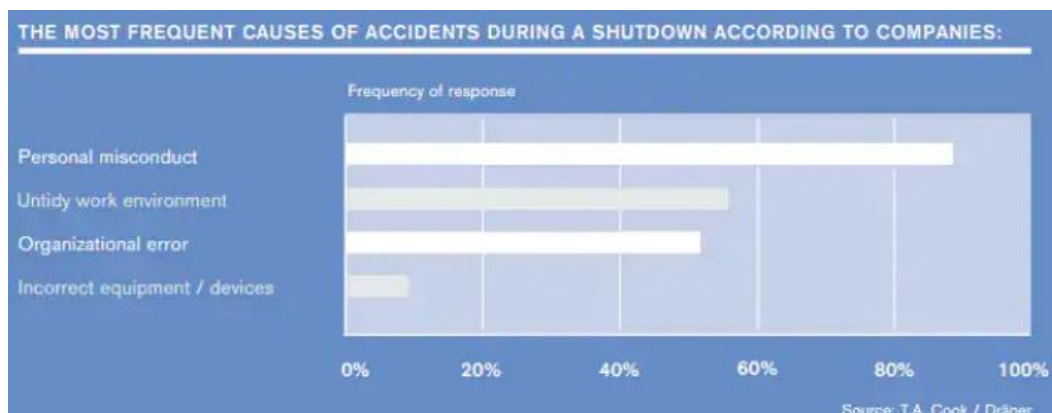


## RISK MANAGEMENT AND PRECAUTIONARY MEASURES IN TIMES OF EMERGENCY SHUTDOWN

Plant Shutdowns are some of the most challenging undertakings for any organization. While cost management and the minimization of downtime are important, the highest priority is always the need to ensure the health and safety of both equipment and workers.



A 2010 study led by ExxonMobil showed that half of safety incidents occur during startups, shutdowns and other infrequent events, likely because of non-routine procedures within the protocol.



## PRECAUTIONARY MEASURES WHILE SHUTTING DOWN

There are however certain precautions and steps that organizations can take to ensure the safety of equipment and site personnel during shutdown and subsequent start-up. These are highlighted below.

### DOs

- Carry out a review of the **Emergency Shut Down** and related procedures with concerned site personnel. Rope in the Original Equipment Manufacturer (OEM) over video-call, if required.
- Conduct a **refresher course on safe work practices** to be followed by site personnel during this time period.
- Ensure that high value equipment and **critical equipment are completely covered** and sealed to prevent damage and/or moisture ingress during the shutdown time.
- Wherever possible, ensure that **equipment and stock are elevated from the ground level** to prevent water damage in the event of heavy rainfall/flood.
- Electrical connections and supplies to be checked to **ensure there will not be power leakage or short circuiting**. Thermography studies can be conducted to check the same.
- In the Indian context, it is important to **have adequate number of rat/mouse traps installed in high-risk areas** such as cable cellars & warehouses to reduce the risk of damage to these cables and stock.
- **Review the condition** of the boundary wall/fencing and installation of CCTV cameras (if not already present).
- Consider **deployment of guard dogs** in the premises, especially in areas with high risk of theft/pilferage.
- Ensure **adequate number of armed security guards** are present round the clock, with regular patrolling round/schedule around the premises.
- **Ensure there is adequate backup of critical data** from the site server into another server located at a different location.

## DON'Ts

- **Do not switch off or disable firefighting equipment.** These should be kept operational for use during any emergency.
- **Do not leave the site without supervision/monitoring** for a long time. Senior site personnel can carry out weekly checks on the site and equipment via video-call.
- **Do not bypass critical safety** devices while troubleshooting shutdowns.
- **Do not keep all emergency response equipment in one location/area**

## PRECAUTIONARY MEASURES WHILE OPENING AGAIN

Once the shutdown is complete and orders are given for starting the plant again, certain key precautions are to be taken.

## DOs

- **Implement written operating procedures** for start-up after emergency shutdowns. Include sufficient detail and provide written checklists and diagrams to verify proper valve positioning, as needed.
- Ensure that staff are sensitised about safe startup procedures and precautions to be taken during the same.
- Conduct and complete a thorough pre-start-up safety review.
- Check for damage to power cables and utilities before start-up.
- Use proper procedures to isolate equipment after shutdowns.
- Inspect, calibrate and test computerized control systems.

## DON'Ts

- Do not bypass critical safety devices while troubleshooting start-ups and shutdowns.
- Do not ignore linkages between the various units within the plant, and how they may react during the start-up

**Disclaimer:** Aditya Birla Insurance Brokers Limited. Registered Office: Indian Rayon Compound, Veraval, Gujarat 362266. Corporate Office: One Indiabulls Center, Tower 1, 14th floor, Jupiter Mill Compound, 841, Senapati Bapat Marg, Elphinstone Road, Mumbai 400 013. Tel. No.: +91 22 43568585. IRDAI License Number: 146. Composite Broker. License valid till: 9th April 2021. CIN: U99999GJ2001PLC062239. ISO 9001 Quality Management certified by BSI under certificate number FS 611893. Aditya Birla Insurance Brokers Limited, Aditya Birla Health Insurance Company Limited and Aditya Birla Sun Life Insurance Company Limited are part of the same promoter group. Insurance is a subject matter of solicitation.

This document contains confidential information. Any use of such materials, including any copying, reproduction, modification, sale, distribution, transmission, republication, display, posting, performance, or other exploitation thereof by any means or medium without the prior written permission of Aditya Birla Insurance Brokers Ltd. is strictly prohibited. Failure to abide by this disclaimer may result in legal action. Aditya Birla Insurance Brokers Ltd. shall in no event be held liable to any party for any direct, indirect, implied, punitive, special, incidental or other consequential damages arising directly or indirectly for any inaccuracy or any information provided