

# PROPERTY LOSS CONTROL ENGINEERING DURING MONSOON



The Southwest Monsoon in India accounts for 80% of annual rainfall, amounting to 750 - 1,500 mm of rain between June and September. In the last decade, increased rainfall across Central and Northern India caused many floods. Additionally, a long coastline exposes India to nearly 10% of all tropical cyclones. According to experts, warmer oceans and rising sea levels, because of climate change, fuel severe tropical storms. In 2020-21, India was affected by Yaas, Amphan, and Tauktae cyclones.

## Effects on Business Property

Cyclones are typically followed by heavy rains, leading to floods. Flood water entering a building could:

- Damage the structure and contents inside
- Stain, rust, and deform stored or in-process products
- Affect functioning of electrical switchgear and electronics, leading to costly repairs or replacements

The damages and business interruptions caused by cyclones could last from a few days to more than a year, based on the depth of water, duration of flooding, wave and water velocity impact, and sensitivity of the occupancy to water damage.

## Risk Management Can Help Business Stay Resilient During the Monsoons

Today, globally interconnected supply chains mean that severe weather in one region has a ripple effect on the rest, wreaking havoc on enterprises around the world.

Risk and insurance managers can identify, assess, and advise on measures to mitigate the risks of tropical storms/cyclones.

Prudent's Property Loss Control Engineering (PLCE) team has been providing unbiased reviews of facilities and suggestions about loss control measures, to ensure smooth operations and prevent losses. Our experts in warehouses and large manufacturing occupancies have been guiding clients with loss prevention measures and providing consultations on facility expansion activities.

## Advice for the Upcoming Rainy Season

Our advice to logistics clients is based on scientific understanding of the business. Our expertise over the years has helped us build a three-pronged property loss prevention strategy to cover requirements which will be helpful to all types of industrial occupancies, including warehouses.

### Pre-monsoon planning for a facility:

- Identify basements and low areas - relocate critical high-value items, easily moveable equipment, contents, and vital records to a place inaccessible to floodwaters
- Cover large stationary machines with water-displacing, rust-preventive compounds
- Move loose outside stock, storage, and equipment to a secure location
- Anchor moveable outdoor equipment including outdoor cranes, move portable items indoors, and lower elevated booms
- Close emergency valves to the sewer drain/s
- Check sump pumps to ensure they are in/ready for operation
- Use flood gates, stop logs, and sandbags to keep water from entering the facility
- Block or waterproof window/other openings
- Create portable barriers around immovable critical equipment, secure storage rack structures, and relocate the most valuable materials to upper rack tiers
- Check roof flashing and its adequacy, and ensure roof drainages are clear
- Shut down flammable liquid and flammable gas systems
- Ensure back-up power supplies (generators) are functional
- Keep fire protection equipment operational for as long as possible

## Post-monsoon advice for facilities

- Check integrity of the electrical system and restore electrical services on an item-by-item basis
- Only perform hot work if necessary, using hot work permit system, after fire protection systems are restored and combustibles are removed from the hot work area
- Check all flammable liquid storage and flammable gas piping systems for leaks before returning to operation
- Check all tanks for leaks
- Remove combustible debris as it accumulates
- Have adequate resources available to clean up, to start drying out wet areas, and to return operations back to normal once floodwater recedes
- In case of loss of power supplies, ensure critical storage and/or items susceptible to temperature variations are relocated

## Plan to restore the fire protection system:

- Ensure the fire pump room is accessible and undamaged by the flood/cyclone event (particularly for underground fire water pump houses)
- Test fire pump, fire pump driver, and controller. Repair if damaged by flood
- Examine the fire pump water source (particularly for open bodies of water) to ensure debris does not enter the pump suction line and the sprinkler & hydrant system
- Check for damage to the underground fire hydrant lines
- Remove water and mud from fire protection valve pits
- Inspect sprinkler system and fire hydrant system piping for damage and repair, as needed
- Test all sprinkler control valves to ensure they are in the fully open position, operable, and undamaged
- Check all fire protection alarm systems and make necessary repairs

Finally, establish a robust and thorough Flood Emergency Response Plan (FERP). The objective of a FERP is to reduce the financial impact of the flood. Loss history has shown that facilities with well-planned FERPs have reduced and prevented damage significantly and resumed operations sooner than locations with inadequate or no FERP.



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