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Taking Steps to Douse Factory Fire Risks

Article By:

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The **National Fire Protection Association** (NFPA) reports that **property losses at U.S. factories total nearly \$1 billion annually**. Between 2006-2010, about 42,800 industrial or manufacturing property fires in the utility, defense, agriculture, and mining industries were reported to U.S. fire departments each year, as well as 22 deaths and 300 injuries each year, according to the NFPA.

"Fire is the No. 1 preventable disaster at manufacturing facilities," Cindy Slubowski, vice president and head of manufacturing at Zurich, said in a statement. "Most fires are preventable, and the risks can be reduced dramatically."

In recognition of National Fire Prevention Week (Oct. 5-11), Zurich recommends that factory owners implement a pre-fire plan, starting with these steps:

Create a Basic Pre-fire Plan in 5 Steps



GATHER INFORMATION

Accumulate property and tenant data. Note any unoccupied floors, alarm system details, hydrant availability, information on fire protection systems and heating and cooling systems, and quantities and locations of hazardous materials or machinery. List all tenants, descriptions of their businesses, hours of operation and when they are on site, their location, contact information and if they have employees with specific rescue needs.

DOCUMENT & PUBLISH INFORMATION

Develop written plans that are easy to understand, accessible and regularly updated. Include any gathered property and tenant data, as well as any maps, diagrams and drawings that reflect the building's construction (size, height and fire-rated walls); the surrounding property's configuration; or tenant dwellings. Include blueprints, floor plans and aerial photographs. File and publish the information in binders and on your server or in the cloud so the plan can be accessed electronically.

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HOST BUILDING WALK-THROUGHS

Periodically invite the local fire department to visit the building. Direct knowledge of a building may help save lives and minimize damage. Inspections and walk-throughs are especially important in complex buildings and areas predominantly served by volunteer firefighters because officers frequently change. Familiarizing current fire officers with your layout may be helpful.

PRACTICE, PRACTICE, PRACTICE

Conduct regular drills to teach employees efficient and effective exit strategies in the event of a fire. Employees should be aware of the appropriate exits and how to safely reach them upon evacuation. Employees should meet at a pre-determined location so a head count can be taken.



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ASSIGN TASKS

Owners and occupants are just as vital to a pre-fire plan as fire departments. Appoint building fire wardens and charge them with evacuating building occupants in the event of a fire. Also, appoint specific individuals likely to be in the building at all hours to notify the fire department in an emergency.

When initial fire prevention efforts fail, automatic sprinklers are an effective secondary line of defense. They not only can protect property from fire damage, but they also play a major role in helping reduce injuries and fatalities. According to the NFPA, sprinklers have a 97% success rate in controlling fires when sprinklers operate during the blaze.

"Sprinklers are a proven method of keeping fires from raging out of control, which gives building

occupants a greater chance to evacuate without injury," Slubowski said. "On top of that, firefighters face fewer risks while working inside the building to completely extinguish the fire." She added that insurers can help building owners develop a pre-fire plan that fits their particular manufacturing facility.

In its white paper, "Loss Prevention," Zurich recommends weekly checks for factories including:

- Visually checking fire protection control valves that are fitted with breakable seals to verify that they are open. Include valves inside ceilings, in pits, and at fire pumps.
- Starting and running electric fire pumps via pressure drop for at least 10 minutes and diesel fire pumps for at least 30 minutes, exercising both sets of batteries. Verify that the diesel fire pump's fuel tank is at least two-thirds full.
- For dry pipe, preaction, and deluge sprinkler systems, check gauges for proper air pressure to verify that the systems have not tripped. Also check their enclosures for adequate heat to prevent freezing.

Common causes and prevention measures:

Extinguish Factory Fire Risks

Help prevent injuries, loss of life and production downtime.



Fire's Impact on Factory Workers:



Potential for injury or death



Potential lost wages from a factory shutdown

Common Causes of Factory Fires:



Hot Work

Think Twice:

Don't use hot methods if cold methods will suffice.

Prepare for Hot Work:

Remove combustible and flammable materials and liquids, or place them at least 35 to 50 feet away from work area.

Ventilate Flammable Vapors:

Flush out storage tanks and process vessels. Verify with a gas detector that flammable vapors are absent from the air.

Clean or Cover:

Wet down any combustible floors, walls or roofs, or cover them with metal shields or fire resistant targs.

Enlist a Fire Watch:

Designate fire watches during hot work, during any breaks and following completion of hot work for 30 to 60 minutes.



Combustible Dust

Repair Equipment:

Shut down and immediately repair any equipment or process producing a dust cloud.

Minimize Dust:

Dust accumulation should not exceed 1/32 of an inch.

Clean with Caution:

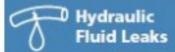
Don't suspend dust into the air while cleaning. Clean dust from production areas using vacuums approved for dust collection. Don't overlook cleaning overhead areas.

Control Static Electricity:

Don't operate equipment if ignition sources like static electricity are present. Bond equipment to the ground to minimize static.

Eliminate Risk Areas:

Locate relief valves away from dust hazard areas.



Inspect and Align Equipment:

inspect machine hoses and fittings to ensure they are free of leaks. Align equipment parts to minimize excess fluid dripping on surfaces.

Lock Out Machines:

Shut off equipment needing repair and bleed off stored energy. Try to start the machine to verify it has been locked correctly.

Housekeeping:

Routinely wipe equipment clean to minimize oil build up.

Properly Maintain Hoses:

> Protect hoses from abrasion. Protect piping and fittings from damage and vibration.

Safely Store Fluid:

Store excess hydraulic fluid in liquid storage rooms. Otherwise, make sure fluid is in safety cans or flammable liquid storage cabinets.

preventable disaster at manufacturing facilities.

Cindy Slubowski, VP, Head of Manufacturing, Zurich

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