COLD WEATHER PREPAREDNESS

Extreme cold temperatures, snow, sleet and freezing rain can create special safety hazards for both your work place and your workers. ACE's Global Property Risk Engineering Group is pleased to offer these Cold Weather Preparedness tips to help identify those areas that may become especially challenging in the cold weather.

Protection Systems

- Provide 24 hour security with hourly rounds while electrical power is off.
- Check all coolant levels, fuel supplies, batteries and diesel driver conditions where necessary for fire pump(s). Run driver for 30 minutes to verify operating condition.
- Verify that sprinkler system water gongs and fire department connections are self-draining.
- All wet sprinkler systems, wet standpipe systems and other protective systems with piping located in areas that are subject to freezing and cannot be adequately heated or heat traced should be shut off, drained and tagged to follow impairment procedures. Provide 24 hour security with hourly rounds in any areas where sprinkler systems have been impaired.
- Add heat tracing to protective systems piping that are susceptible to freezing.
- Where sprinkler systems have frozen, close the main valve before thawing the system to prevent water damage if pipes/fittings have cracked. Thaw system and then open the main valve slowly with the assistance of "spotters" looking for leaks throughout the building. Shut down the system immediately if leaks are noted, and follow impairment procedures.
- Cap off or remove piping where ruptures have occurred. Isolate these areas, provide impairment precautions and return the system to service as soon as possible.

Roof Areas

- Initialize a regular preventive maintenance program to remove additional snow accumulations from new snowstorms on roof areas. Special attention should be paid to the following:
  - Multi-level roof sections susceptible to snow drift.
  - Areas where immediate roof bracing/support is necessary.
  - Snow accumulation around drain(s). Salt can be used to keep them from freezing.
  - Large accumulations on long expanses of unsupported roof areas.
  - Avoid overloading isolated areas during the clearing process by removing snow in a systematic manner.
- Obtain expert advice and services from reputable roofing contractors/consultants.
- Clear roof drains of snow and ice to allow melting and runoff. Heat tracing can be used to ensure drain risers do not become re-plugged by ice after they have been cleared.
- Remove ice from skylights and around large heating, ventilation and air conditioning equipment units, as well as facades, penthouses and parapets.
- Remove ice buildup along the eaves/troughs and edge of roof line.
- If roof is pitched and without drains, open paths to eaves to ensure drainage and prevent ponding.
- Take care to not damage roof coverings during snow/ice removal. Avoid using ice picking tools. Do not attempt to remove ALL snow or ice down to the roof covering. This will help to avoid damaging the roof membrane.

Equipment

- Place thermometers in strategic areas of the facility and monitor temperatures in the critical areas often subject to colder temperatures, including:
  - Attics and crawl spaces
  - Stairways and stair towers
  - Areas above drop ceilings
  - Areas below false floors
  - Unoccupied areas
  - Heavily insulated areas
- Provide adequate and safe additional emergency heating equipment in areas prone to freezing. Set this equipment to activate automatically when temperatures fall below 40 degrees Fahrenheit.
- Add heat tracing to process systems piping that are susceptible to freezing.
- Where temperatures within the building reach 32-40 degrees Fahrenheit, personnel should drain equipment such as process piping, mill-use lines, heat exchangers, process equipment, compressors, condensate piping, boilers, hydraulically operated devices and air conditioning systems.
- Shield equipment and inventory that is located directly below susceptible frozen pipes with water resistant coverings.
- Take special precautions in thawing piping and equipment that has frozen. Slowly apply heat to these areas. Avoid open flames. In the event that an emergency dictates the need to achieve thawing using a torch or open flame device, follow standard Hot Work Permit procedures. The following precautions are also strongly advised:
  - Reasonably movable combustible materials should be removed from the hot work area and the floors should be swept clean.
  - Wood floors should preferably be covered by metal or wet down.
  - A fire extinguisher with a minimum rating of 2A, 10BC should be maintained nearby.
  - A fire watch should be maintained at least 30 minutes after hot work operations are completed.

CONTACT:

ACE's North America Property Risk Engineering Group, part of ACE's North America Property & Specialty division, is a unit of ACE USA, the retail U.S.-based operating division of ACE Group. ACE's Property Risk Engineering Group is your one place to call for engineering services designed to prevent and control the impact of major losses.

For additional information, please visit www.acegroup.com/us/propertyengineering.

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