ANNUAL COLD WEATHER INSPECTIONS

Cold weather and freezing temperatures are a normal occurrence each year in much of the world. In some areas, however, cold weather is usually not considered a matter of concern. Temperatures in these areas seldom reach freezing and when they do, they remain there for a relatively short period of time, usually no more than a few hours.

Such lack of concern may not be justified. Loss experience illustrates that shifts in the jet stream can cause bitterly cold arctic air masses to press deeply into the warmer climes, sustaining freezing temperatures for periods of several days. At the same time, these unusual arctic air masses cause temperatures in normally cold areas to drop well below freezing, even well below zero, for periods of up to three weeks.

Therefore, facilities located in all but tropical latitude (less than 23.5°) must take precautions before the cold season each year. Unless proper precautions are taken before winter arrives, even the best fire protection equipment may freeze and leave a major portion of a facility defenseless. Neglect of proper precautions has directly contributed to many disastrous fires in past winters. While many of these precautions are actually taken by the maintenance department, the fire protection equipment inspector must make sure the following items have been completed by appropriate personnel before cold weather (see PRC.1.3.0.A).

- General
  - Promptly clear snow from access ways, control valves, hydrants, hose cabinets, heat and smoke vents, explosion-relief vents, and other essential equipment to permit effective operations in event of an emergency.
  - Weathertight all doors, windows, skylights, ventilators, and other openings so they will not admit cold air that could cause the fire protective system to freeze.
- Sprinkler and Inside Hose Systems
  - Maintain temperature above 40°F (4.4°C) at all times in buildings equipped with wet pipe sprinkler systems. Convert areas, which are inadequately heated to dry pipe or pre-action systems.
  - Inspect dry pipe sprinkler systems carefully to make sure that the piping is properly pitched for drainage. Drain any condensation that collects in low points in the piping. Remove excessive priming water.
  - Install sprinkler heads with the correct temperature rating in the immediate vicinity of steam pipes, unit heaters, or other heat producing appliances.
  - Test the solutions in all anti-freeze sprinkler systems and add anti-freeze as necessary.
  - Close, tag, and properly drain any “shut-in-winter” valves controlling small unheated areas. Consider converting such systems to either a dry pipe or a pre-action system.
  - Close, tag, and properly drain all wet standpipe systems with piping located in areas subject to freezing.
  - Inspect connections to water motor gongs and fire drain department connections.
- Fire Protection Water Tanks
  - Inspect expansion joint and riser boxing to see if they are in good condition. Gravity tanks must not leak, since an accumulation of ice on trestles can cause the tank structure to collapse.
  - Check the water temperature in the gravity tank daily during cold weather and maintained at no less than 42°F (5.5°C).

  - Flush, inspect and repair, if necessary the tank heating system.
  - Tightly fit and fasten the tank roof-hatch cover.
- Hydrants and Underground Piping
  - Drain hydrants and fire pump hose headers. Leave outlet hose valves half open to prevent damage from freezing.
  - Properly drain and dry hoses.
  - Inspect the packing on post indicator valves for leakage.
  - Drain or otherwise protect against freezing, sections of exposed piping.
  - Inspect valve and meter pits to determine if they are dry and frost-proof.
- Verify portable and wheeled fire extinguishers are suitable for cold areas; otherwise store them in heated cabinets.
- Service Automotive Fire Apparatus for winter.