Preventing Freeze-up Impairments

Learning objective: *The student shall be able to list several actions needed to avoid freeze-up emergencies in water-based fire protection systems.*

With the northern hemisphere in the middle of winter, sustained cold weather creates potential problems like this severely ice-damaged outside stem and yoke valve that was left in the open position when the building heat was turned off.

There are numerous steps a property owner should take for property protection when cold weather nears:

- Examine wet-pipe sprinkler systems for areas susceptible to freezing, and develop plans to assure they remain operational.
- Inspect all dry-pipe systems to make sure their clappers are properly seated, air settings are correct, air maintenance systems (compressors) are in good operating condition, riser rooms are well insulated, and heat tape (if permitted) and heating systems are working properly.
- Drain all low points and check priming water level for excess accumulation.
- Exercise and lubricate all sectional control valves to ensure they will work properly should a break occur. Keep the valves clear of snow and ice.
- Verify antifreeze systems have proper antifreeze solution strength.
- Inspect, service, and test heating systems to assure that power and temperature controls cannot be inadvertently deactivated. Check the fuel supply for the heating system and portable heaters. Have adequate fuel supplies on hand.
    - Install temperature alarms or automatic backup heat sources on vulnerable systems. Temperatures should not fall below 40° F (4.4° C).
    - Use only listed or approved portable heaters where they can be supervised safely, and where there is adequate ventilation. Use extreme caution to prevent ignition of surrounding combustibles.
    - Do not use torches, other open flame tools, or steam to thaw frozen pipes.

Always follow impairment plan protocols. An owner should contact his or her property insurer for additional loss control advice. See Coffee Break Training 2006-12 "Planned Impairments".