Lake Dillon Fire Protection District
Fire Prevention Guidelines

Approval: David L. Parmley – Fire Chief

Antifreeze Fire Sprinkler Systems 2114

Latest Revision: 11/01/11

PURPOSE: This policy provides guidelines and clarification for the design, installation and maintenance of commercial and residential fire sprinkler systems that use antifreeze solutions.

SCOPE: The Authority Having Jurisdiction (AHJ) shall provide information, education and local policy guidelines to sprinkler contractors, property managers and system owners. This information shall be used to design, install and maintain antifreeze sprinkler systems in our uniquely cold environment.

Design, Installation and Maintenance Criteria

1. On March 1, 2011 the NFPA Standards Council voted to issue Tentative Interim Amendment's (TIA's) for NFPA 13, 13R, 13D and 25. These TIA's in effect put restrictions on the antifreeze concentrations that can be used in new and existing sprinkler systems.
2. Antifreeze solution concentrations for new fire sprinkler systems shall be per the latest editions of NFPA 13, 13R & 13D as amended by the actions of the NFPA Standards Council.
3. The maximum concentration of antifreeze used shall be approved by the AHJ.
4. Fire sprinkler contractors and design engineers shall contact the AHJ for details on these issues, prior to fire sprinkler system design. The sprinkler contractor shall provide a written report, to the AHJ indicating the concentration level installed in the new sprinkler system. Additional requirements may be warranted based on building design and/or location.

Maintenance of Pre-existing Antifreeze Systems – systems constructed prior to March 1, 2011

1. The Summit County region is subject to lower winter temperatures for longer periods of time. The new amendments expose pre-existing systems to potentially more freeze-up problems, broken sprinkler piping, building damage and higher maintenance costs.
2. Factory premixed antifreeze solutions shall only be installed in systems.
3. See the AHJ for historical minimum air temperatures records.
4. The antifreeze solution tables in NFPA 25 (2011 edition), prior to the March 1, 2011 decision, shall be used in determining the antifreeze solutions concentrations. Under guidance from the sprinkler maintenance contractor and the AHJ the owner of the system shall decide on the antifreeze concentration to be used in their system.
5. The maximum concentration of antifreeze used shall be approved by the AHJ.
6. The sprinkler maintenance contractor shall provide an approved written report to the AHJ indicating the concentration level installed in the pre-existing sprinkler system.
7. At no time shall existing sprinkler systems be taken out of service due to antifreeze problems without prior notice to the AHJ.