



## Cobb County Fire & Emergency Services Fire Marshal's Office

### Code Application Policy # 5-1

## FREEZING WEATHER AND FIRE SPRINKLER SYSTEMS

ISSUED DATE: 1/26/2018

REVISED:

RELATED GUIDANCE: NFPA 25, 2011 edition, and NFPA 101, 2012 edition

ISSUED BY: Division Chief / Fire Marshal Jay S. Westbrook

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SCOPE: FMO personnel, Business Owners/Managers, and Fire Protection Contractors

PURPOSE: To provide guidance on the acceptable practices for maintaining fire sprinkler systems during freezing temperatures.

Freezing weather can present a challenge for the proper protection of fire sprinkler systems. Building owners/managers often ask if water supplies to fire sprinkler systems can be turned off as a preventative measure during periods of freezing weather and post a fire watch. The Fire Marshal's Office does not approve the pre-emptive disabling of a sprinkler system during periods of freezing weather as it is inconsistent with State of Georgia Minimum Fire Safety Standards. Additionally, this is not an approved use of a fire watch.

Fire sprinkler systems must be kept active and operational anytime the building or space is occupied. Cold temperatures increase the likelihood that occupants will create dangerous situations to keep warm (i.e. improper generator use, space heaters, candles, etc.). These measures often increase the likelihood that a fire or other emergency will occur. The disabling of a fire sprinkler system under these circumstances is unlawful and punishable by law. The owner/manager also takes on a tremendous liability, both personal and professional, if they disable fire sprinkler systems or cause them to be disabled. The reference below is the applicable portion of the 2012 International Fire Code regarding this matter. This code is adopted by the State of Georgia and Cobb County.

#### **Section 901.8, 2012 International Fire Code**

It shall be unlawful for any person to remove, tamper with or otherwise disturb any fire hydrant, fire detection and alarm system, fire suppression system, or other fire appliance required by this code except for the purpose of extinguishing fire, training purposes, recharging or making necessary repairs, or when approved by the fire code official.

There are steps owners/managers can take to limit freeze damage to fire sprinkler systems. In buildings where people sleep, an NFPA 13R sprinkler system is often installed. In NFPA 13R systems, we frequently see inadequate insulation on the sprinkler piping in the attic. This insulation should be inspected by property owners/managers for proper thickness (R30-Value recommended) and to make sure it has not been misplaced or disturbed by other contractors working in the attic. See examples below. Sprinkler control valve boxes/rooms should also be inspected for proper insulation and/or make sure heating devices are working properly.

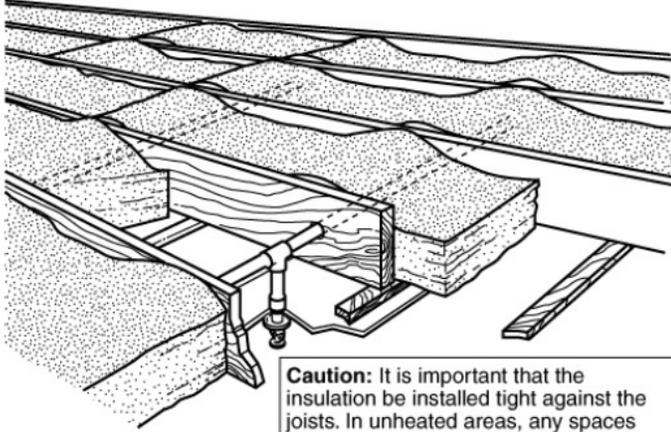
In NFPA 13 systems, it is often the drum drip on dry sprinkler systems that is not properly maintained. With any wet sprinkler system (13 or 13R), unoccupied spaces with no active heating appliances can also cause freezing of pipes. Sprinkler codes required spaces protected with wet pipe sprinkler systems to be kept above 40 degrees F.

Building owners and managers should work with their fire sprinkler contractor to ensure that the fire sprinkler system in their building is properly maintained and ready for freezing temperatures. A properly maintained and insulated fire sprinkler system should not suffer damage from freezing weather.

Owners/managers may contact our office at 770-528-8310 if they need further details.

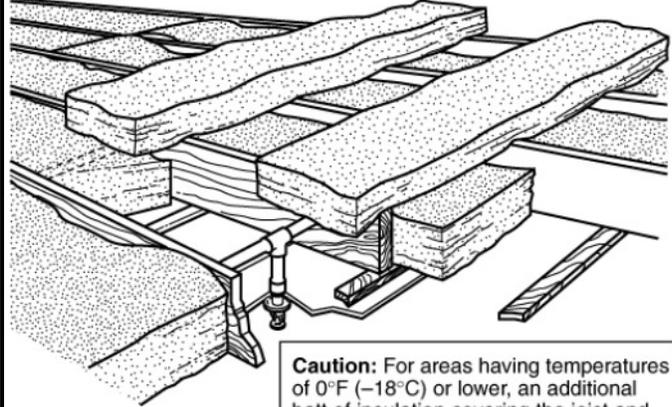
Examples of insulation in attic areas of NFPA 13R systems (from NFPA 13R, 2013 and 2016 edition).

Figure A.5.4.2(a) Insulation Recommendations — Arrangement 1.



**Caution:** It is important that the insulation be installed tight against the joists. In unheated areas, any spaces or voids between the insulation and the joists cause the water in the fire sprinkler piping to freeze.

Figure A.5.4.2(b) Insulation Recommendations — Arrangement 2.



**Caution:** For areas having temperatures of 0°F (-18°C) or lower, an additional batt of insulation covering the joist and the fire sprinkler piping should be used. If this is not done, freeze-ups can occur in the sprinkler piping.

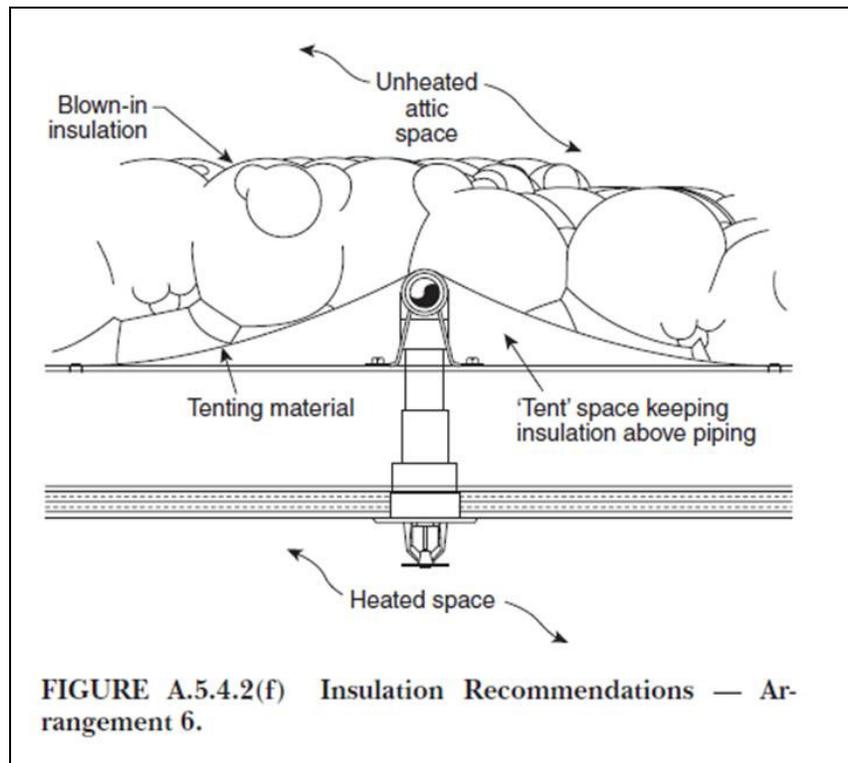


FIGURE A.5.4.2(f) Insulation Recommendations — Arrangement 6.