

STATE OF COLORADO

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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

MEMORANDUM

Date: September 20, 2010

To: Acute Treatment Units
Assisted Living Residences
Community Residential Homes for Persons with Developmental Disabilities
Intermediate Care Facilities for Persons with Developmental Disabilities
Nursing Homes
Residential Hospices

Re: Emergency Regulations Concerning the Use of Antifreeze in Sprinkler Systems

On September 15, the state Board of Health promulgated emergency regulations prohibiting the use of antifreeze in certain portions of the sprinkler systems for residential facilities 1) applying for initial licensure on or after September 15, 2010 and 2) adding previously unlicensed space on or after September 15, 2010.

These emergency rule changes were promulgated because in August 2010, the National Fire Protection Association (NFPA) determined that antifreeze solutions above certain concentrations ignite and exacerbate fires. The determination is based in large part on testing by the Underwriters Laboratories (UL) that indicates that when sprinklers systems with concentrations above 40% propylene glycol or 50% glycerin are deployed, the sprinkling intensifies the flames explosively.

Attached are:

- the emergency regulation.
- a factsheet explaining the implications of the proposal.

**EMERGENCY REGULATION REGARDING ANTIFREEZE IN SPRINKLER SYSTEMS
AMENDMENTS TO 6 CCR 1011-1, CHAPTER II, PART 1**

Effective September 15, 2010

~~**PART 1 - SUBMISSION OF CONSTRUCTION PLANS/DOCUMENTS AND COMPLETION OF THE PLAN REVIEW PROCESS**~~

PART 1 - GENERAL BUILDING AND FIRE SAFETY PROVISIONS

1.100 SUBMISSION OF CONSTRUCTION PLANS/DOCUMENTS AND COMPLETION OF THE PLAN REVIEW PROCESS

1.200 USE OF ANTIFREEZE IN SPRINKLER SYSTEMS

1.100 SUBMISSION OF CONSTRUCTION PLANS/DOCUMENTS AND COMPLETION OF THE PLAN REVIEW PROCESS

1.101 STATUTORY AUTHORITY AND APPLICABILITY

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(2) This ~~Part 1~~ **SUBPART 1.100** applies to all licensed facilities subject to plan review in accordance with requirements established in the respective chapter under 6 CCR 1011-1, associated with each type of health care entity. It is the responsibility of the health facility to ensure that any construction project complies with the applicable local, state, and federal standards and codes.

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1.200 USE OF ANTIFREEZE IN SPRINKLER SYSTEMS

1.201 STATUTORY AUTHORITY AND APPLICABILITY

(1) AUTHORITY TO ESTABLISH MINIMUM STANDARDS THROUGH REGULATION AND TO ADMINISTER AND ENFORCE SUCH REGULATIONS IS PROVIDED BY SECTIONS 25-1.5-103 AND 25-3-101, C.R.S., ET SEQ.

(2) THIS SUBPART 1.200 APPLIES TO ASSISTED LIVING RESIDENCES, ACUTE TREATMENT UNITS, COMMUNITY RESIDENTIAL HOMES FOR PERSONS WITH DEVELOPMENTAL DISABILITIES, INTERMEDIATE CARE FACILITIES FOR PERSONS WITH DEVELOPMENTAL DISABILITIES, NURSING HOMES AND RESIDENTIAL HOSPICES.

1.202 DEFINITIONS

(1) "DWELLING UNIT" MEANS ONE OR MORE ROOMS ARRANGED FOR THE USE OF ONE OR MORE INDIVIDUALS LIVING TOGETHER AS IN A SINGLE HOUSEKEEPING UNIT NORMALLY HAVING COOKING, LIVING, SANITARY AND SLEEPING FACILITIES. FOR THE PURPOSES OF THIS SUBPART 1.200, DWELLING UNIT INCLUDES APARTMENTS, SLEEPING ROOMS IN NURSING HOMES AND SIMILAR LIVING UNITS.

(2) "RESIDENTIAL FACILITY" MEANS AN ASSISTED LIVING RESIDENCE, ACUTE TREATMENT UNIT, COMMUNITY RESIDENTIAL HOME FOR PERSONS WITH DEVELOPMENTAL DISABILITIES, INTERMEDIATE CARE FACILITY FOR PERSONS WITH DEVELOPMENTAL DISABILITIES, NURSING HOME OR RESIDENTIAL HOSPICE.

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1.203 PROTECTION AGAINST COMBUSTIBLE ANTIFREEZE

(1) FOR RESIDENTIAL FACILITIES. ANTIFREEZE SHALL NOT BE PERMITTED WITHIN THE DWELLING UNIT PORTIONS OF SPRINKLER SYSTEMS:

- (a) IN FACILITIES APPLYING FOR INITIAL LICENSURE ON OR AFTER SEPTEMBER 15, 2010; EXCEPT THAT SUCH FACILITIES WITH A SPRINKLER SYSTEM SUBJECT TO NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13D SHALL NOT BE PERMITTED TO USE ANTIFREEZE IN ANY PORTION OF THAT SPRINKLER SYSTEM. FOR ASSISTED LIVING RESIDENCES, THIS SECTION INCORPORATES BY REFERENCE NFPA 13D: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS IN ONE- AND TWO-FAMILY DWELLINGS AND MANUFACTURED HOMES (2002). FOR COMMUNITY RESIDENTIAL HOMES FOR PERSONS WITH DEVELOPMENTAL DISABILITIES AND INTERMEDIATE CARE FACILITIES FOR PERSONS WITH DISABILITIES, THIS SECTION INCORPORATES BY REFERENCE NFPA 13D: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS IN ONE- AND TWO-FAMILY DWELLINGS AND MANUFACTURED HOMES (1999). FOR SUCH INCORPORATION BY REFERENCE AS PROVIDED IN 6 CCR 1011-1, CHAPTER II, EXCLUDES LATER AMENDMENTS TO OR EDITIONS OF REFERENCED MATERIAL.
- (b) IN NEW CONSTRUCTION, ADDITIONS OF PREVIOUSLY UNINSPECTED OR UNLICENSED SQUARE FOOTAGE UNDER THE LICENSE OF AN EXISTING OCCUPANCY, AND RELOCATIONS IN WHOLE OR IN PART TO ANOTHER PHYSICAL PLANT. THIS REQUIREMENT APPLIES TO CONSTRUCTION FOR WHICH THE APPLICATION FOR A BUILDING PERMIT FROM THE LOCAL AUTHORITY HAVING JURISDICTION IS DATED ON OR AFTER SEPTEMBER 15, 2010.

FACTSHEET

Emergency Regulations Concerning Antifreeze in Sprinkler Systems

Emergency regulations are effective immediately upon adoption by the Board of Health, but only for 120 days. To make the requirements permanent, the Board must repromulgate these provisions through a permanent rulemaking hearing. The permanent rulemaking hearing is scheduled for November 17, 2010.

1. Which licensed health care entities are impacted by the emergency regulations?

The following facilities are impacted: assisted living residences, acute treatment units, community residential homes for persons with developmental disabilities, intermediate care facilities for persons with developmental disabilities, nursing homes and residential hospices.

2. What do the emergency regulations require?

The regulations prohibit the use of antifreeze in the "dwelling unit" portion of sprinklers in:

- facilities applying for initial licensure on or after September 15, 2010;¹ except that such facilities with a sprinkler system that has an onsite water supply (instead of being connected to the main water line) will not be allowed to use antifreeze in any portion of that sprinkler system.
- new construction, additions of previously uninspected or unlicensed square footage under the license of an existing occupancy, and relocations in whole or in part to another physical plant for which the application for a building permit from the local authority having jurisdiction is dated on or after September 15, 2010.

3. What is the "dwelling unit" portion of a sprinkler system?

The dwelling unit portion of a sprinkler system includes living spaces such as the kitchen, resident use areas such as dining rooms and sleeping areas. Areas not used by residents - such as exterior canopies, garages, storage areas and attics - are not considered "dwelling unit" areas.

4. What was the impetus for the passage of these regulations?

As a result of recent fatal residential fire incidents, available literature, and laboratory testing, the National Fire Protection Association (NFPA) identified concerns with the use of antifreeze

¹ Please note that this proposal impacts facilities seeking initial licensure on or after September 15, 2010, but it does not impact changes of ownership.

solutions. NFPA requested the Underwriters Laboratory, Inc. (UL) to conduct testing, which found that the application of antifreeze solutions above certain concentrations of antifreeze (specifically glycerin and propylene glycol) creates explosive flame growth in fires.

In response to these findings, NFPA issued Tentative Interim Amendments (TIAs)² to the 2010 edition of the NFPA 13 standards for the installation of sprinkler systems that prohibit the use of antifreeze in the dwelling unit portions of sprinkler systems of new construction. The TIAs are effective immediately.

5. *Why didn't the Department rely on the TIAs issued by the NFPA instead of seeking the adoption of an emergency regulation?*

The TIAs are issued to the 2010 edition of sprinkler system standards which are referenced by the 2010 edition of the Life Safety Code. Currently, all the licensure regulations reference earlier editions of the code, which means that the Department cannot enforce the TIAs. The only way to enforce the requirement is through a regulation.

6. *When did the emergency regulations become effective?*

The regulations became effective on September 15, 2010.

If you have questions on how the emergency regulations will affect current plan review projects, please contact the Life Safety Code Inspector assigned to your project or Ted Caviness, Plan Review Coordinator, 303-692-2920.

² TIAs are emergency rulings that are effective as code until the next meeting of the NFPA Standards Council (scheduled for June 2011). It is considered tentative because it was issued by the Standards Council and has not gone through the entire standards-making process.