AGENDA

UNIFORM BUILDING CODE COMMISSION
ARCHITECTURAL ADVISORY COMMITTEE
UNIFIED CODE ANALYSIS COUNCIL
MEETING

July 7, 2015 9:00 AM
Sandy City Hall Room 341
10000 Centennial Pkwy, Sandy, UT
This agenda is subject to change up to 24 hours prior to the meeting.

Sign attendance sheet

1. Swear in new members
2. Elect a chair and vice chair
3. Approve minutes from the June 30, 2015 meeting
4. Review proposed amendment for Wasatch County Fire District
5. Review of 2015 IFC and current amendments

INFO ITEMS

a. IBC Amendment Status Log
b. IRC Amendment Status Log
c. IEBC Amendment Status Log

Next Scheduled Meeting: as needed

If you do not plan on attending this meeting, please call Sharon at 530-6163 or email at ssmalley@utah.gov or dansjones@utah.gov.

In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Dave Taylor, ADA Coordinator, at least three working days prior to the meeting. Division of Occupational and Professional Licensing, 160 East 300 South, Salt Lake City UT 84115, Phone 530-6628 or toll-free in Utah only 866-275-3675.

WASATCH COUNTY FIRE DISTRICT

Fire Sprinkler Design and Installation Requirements

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1. NFPA 13 – 2010 EDITION IS MODIFIED AS FOLLOWS:

1.1 **Section 8.17.1.1 – Local Water Flow Alarms:** Amended as follows by adding the following new subsections after 8.17.1.1:

1.1.1 **8.17.1.1.1 - Single Tenant Occupancies:** An approved alarm notification appliance (horn/strobe) shall be provided in the interior of the building, in a normally occupied location, to alert occupants of the fire sprinkler system activation.

1.1.2 **8.17.1.1.2 – Multi-Tenant Occupancies:** An approved alarm notification appliance (horn/strobe) shall be provided in the interior of each tenant space, in a normally occupied location to alert the occupants of the fire sprinkler system activation.

1.1.3 **Exterior Water Flow Alarm**: IFC 903.4.2 is amended as follows: A minimum of one approved alarm notification appliance (horn/strobe) shall be provided on the exterior of the building in an approved location. An approved alarm notification appliance shall be facing the street front of the building, above the Fire Department Connection (FDC) and Fire Riser Room.

2. NFPA 13R -2010 EDITION IS MODIFIED AS FOLLOWS:

2.1 **Section 6.16 – Alarms:** Amended as follows by adding the following new subsections after 6.16.1:

2.1.1 **6.16.1.1 – Local Waterflow Alarms:** An approved alarm notification appliance (horn / strobe) shall be provided in the interior of each residential unit / tenant space, in a normally occupied location ,as approved by the fire code official, to alert the occupants of the fire sprinkler activation.

2.1.2 **6.16.1.2 – Exterior Waterflow Alarm: Exterior Water**: IFC 903.4.2 is amended as follows: A minimum of one approved alarm notification appliance (horn/strobe) shall be provided on the exterior of the building in an approved location. An approved alarm notification appliance shall be installed facing the street front of the building, above the Fire Department Connection (FDC) and Fire Riser Room.

3. NFPA 13D – 2010 EDITION IS MODIFIED AS FOLLOWS:

3.1 **4.1.4 – Antifreeze Systems – Subsection (3):** Amended section 4.1.3 by amending subsection (3)

3.1.1 **4.1.4 – Existing systems; is deleted and replaced as follows:** Existing fire sprinkler systems with an antifreeze solution shall be tested annually using an approved method, before the onset of freezing weather. If any of the samples exhibits a concentration lower than what is necessary to keep the fluid from freezing, the system shall be drained completely and replaced with an acceptable concentration of 38% premixed propylene glycol or 48% premixed glycerin.

3.1.2 **Disposal-** Any antifreeze that is found to be unusable shall be disposed of as per local health department regulations.

3.2 **4.2 Hydrostatic Tests:** 4.2.1 is deleted and replaced with the following:

3.2.1 **4.2.1:** Where a fire department connection (FDC) is not provided, the system shall be hydrostatically tested for leakage at a pressure of not less than 100 psi or at normal system operating pressure, whichever is higher.

3.3 **7.5 Sprinklers:** Amended by adding the following at the new subsection after 7.5.4:

3.3.1 **7.5.4.1 – Garage Area:** Sprinklers, when required, within a garage area shall be of the Quick Response (QR) Sprinkler type as defined by NFPA-13, section 3.6.4.7

3.4 **7.6 – Alarms:** Amended by adding the following new subsections:

3.4.1 **7.6.1 Exterior Waterflow Alarm:** An approved alarm notification appliance (horn / strobe) shall be provided on the exterior of the building in an approved location, facing the street front of the building.

3.4.2 **7.6.2- Interior Alarm:** An approved interior audible alarm notification appliance shall be required (1) per floor or must be audible throughout the dwelling as approved by the fire code official.

3.5 **8.1 Design Criteria:** Amended by adding a new subsection after 8.1.1.1.3:

3.5.1 **8.1.1.1.3 – Garage Area:** The system shall be designed in accordance with NFPA 13 2010 edition, for a Light Hazard Occupancy with quick response (QR) sprinkler heads at a density of 0.10 gpm per square foot.

3.6 **8.1.2 – Number of Design Sprinklers:** Amended by adding a new subsection 8.1.2.1:

3.6.1 **8.1.2.1 – Garages:** The number of design fire sprinklers shall include all sprinklers within a compartment, up to a maximum of two (2) sprinklers, that require the greatest hydraulic demand.

3.7 **8.3.3 – Antifreeze Systems:** Amended as follows:

3.7.1 **8.3.3 – Antifreeze Systems:** Pursuant of the recent concerns with the use of anti-freeze additives in fire sprinkler systems, **the use of non-listed anti-freeze additives in the installation of fire sprinkler system will no longer be permitted as per NFPA regulations.**

3.8 **Freeze Protection:** Sprinkler piping shall be prohibited from installation in unconditioned spaces subject to freezing e.g. exterior walls, attics and other unconditioned spaces that may be subject to freezing. Piping may be installed as per

3.8.1 **NFPA 13 D 2010 8.3.1, 8.3.2 [delete subsection(2)], Annex A8.3.1 and Annex A8.3.1 (a) through A8.3.1 (e)**

Documentation shall be submitted specifying how piping will be maintained above 40 degrees Fahrenheit.

3.8.2 **Other methods as approved by WCFD.**

3.8.3 **Limited Application Antifreeze.** Where approved by the Wasatch County Fire District (WCFD), the Architect or

Engineer of Record, general contractor and fire sprinkler contractor must demonstrate that no other viable alternative is available. If approved by WCFD, the Architect or Engineer of Record, general contractor and fire sprinkler contractor must submit a request to WCFD for the use of an antifreeze solution, in a limited application, as an alternative materials and methods in accordance with section 104.9 of the IFC, along with an explanation of why the extreme cold temperatures cannot be avoided within the structure were the fire sprinkler piping will be installed.

3.9 Antifreeze Solutions: Subsection 8.3.3.2.3 is deleted and replaced with the following:

3.9.1 **8.3.3.2.3** When approved by the WCFD, the anti freeze solution installed in new fire sprinkler systems, installed in accordance with NFPA 13D shall not exceed a maximum concentration of 38% premixed propylene glycol or 48% premixed glycerin, and the capacity of the system may not exceed 150 gallons. [Utah State Amendment-IFC 903.3.1.1.3]

3.9.2 Limited application antifreeze system must be installed as per requirements of NFPA 13 D 2010 edition.

3.9.3 Where antifreeze is specifically approved for use by AHJ variance, system pressure must be regulated so as to prevent pressure from exceeding 100 psi.

3.10 8.3.3.5 Amended by adding a new subsection 8.3.3.5.1:

3.10.1 **8.3.3.5.1- Antifreeze Tag and Information:** A tag shall be attached to the riser indicating the date the antifreeze solution was tested. The tag shall also indicate the type and concentration of antifreeze solution by volume with which the system is filled, the name of the contractor that tested the antifreeze solution, the contractor's license number, and a warning to test the concentration of the antifreeze solutions at yearly intervals. [Utah State Amendment – IFC 903.5.1]

3.11 8.4.3 – Minimum Pipe Size: Amended by adding a new subsection 8.4.11:

3.11.1 **8.4.11 – Garage Area:** Minimum pipe size shall be one (1) inch and installed in accordance with NFPA-13 for a Light Hazard Occupancy with quick response (QR) sprinkler heads.

3.12 8.6 – Location of Sprinklers: Section 8.6.4 is deleted and replaced with the following:

3.12.1 **8.6.4.1 – Garages:** Garages that are located directly beneath any living space within the residential structure shall be provided with fire sprinkler protection directly below the living space in the garage area.

3.12.1.1 **8.6.4.2 – Attached Garages and Car Ports:** Attached garages and/or car ports that are attached directly to the residential structure with NO living space above shall not require sprinkler protection if Building Code requirement for fire rated doors/walls are met.

4 International Fire Code - 2012 edition is modified as follows:

4.1 **Section 504: Access to Building Openings and Roofs** - Is modified by adding a new section 504.4 Required Access to Fire Sprinkler Riser and Fire Pump Rooms.

4.1.1 **Section 504.4 Required Access to Fire Sprinkler Riser and Fire Pump Rooms.** In other than one and two family dwellings, direct exterior access shall be provided and readily accessible for emergency access by the fire department to all fire sprinkler riser rooms and fire pump rooms. An approved access walkway leading from fire apparatus access roads to exterior openings for the fire sprinkler riser room shall be provided. When direct access is not provided to the fire sprinkler riser and fire pump room, an electrically supervised post indicator valve (PIV) in accordance with section 903.4 of this code is permitted.

4.2 **Section 507 Fire Protection Water Supplies** is amended as follows:

4.2.1 **507.1** is amended as follows: Required Water Supply shall be the fire flow requirements for buildings or portions for buildings and facilities shall be determined by **IFC Appendix B 2003 edition** (as per State Code 15A-5-401) or state code **15A-5-203**.

4.2.2 **507.2 Type of Water Supply** is deleted and replaced with the following:

Water supplies required by 507.1 shall be installed so as to provide the fire hydrant with a constant pressure and approved fire flow for fire fighting operations as well as provide an access point into the tank to accommodate drafting operations.

4.2.3 **Fire Sprinklers Required in Accessory Structures-**Where sufficient Fire Flows are not provided for accessory structures, Fire Sprinklers may be required if any of the following exist:

(A) Structure is constructed in designated Wildland Urban Interface area.

(B) Structure has a second level with only one means of egress.

(C) Structure is provided with plumbing and mechanical appliances.

(D) Structure is 500 square feet or more as defined in IFC Appendix B104.1. 2003 Edition.

4.3 **Antifreeze Systems:** Pursuant to the recent concerns with the use of anti-freeze additives in fire sprinkler systems, **the use of non-listed anti-freeze additives in the installation of any fire sprinkler system will no longer be permitted as per NFPA regulations.**

Where protection of fire sprinkler pipes from freezing is a concern, options other than the use of antifreeze solution must be used. Such options include running the fire sprinkler piping in heated/warm spaces, listed heat tracing, installation of dry-pipe fire sprinkler systems, preaction fire sprinkler systems and the use of dry pendant or dry sidewall sprinklers.

5 IFC 104.9 Alternative Materials and Methods

5.1 In accordance with IFC 104.9 Alternative Materials and Methods, other means of freeze protection are allowed (including anti-freeze in limited application) as **approved** by the Wasatch County Fire District.

5.2 **Alternative Materials and Methods: The fire sprinkler contractor, general contractor, Architect or Engineer of Record and homeowner must submit a request to WCFD for the use of an alternative means of freeze protection as an alternative materials and methods in accordance with section 104.9 of the IFC, along with an explanation of why the extreme cold temperatures cannot be avoided within the structure were the fire sprinkler piping will be installed.**

5.3 **If approved by WCFD, the fire sprinkler contractor, general contractor, Architect or Engineer of Record and homeowner must demonstrate that no other viable alternative is available.**

5.4 EXISTING SYSTEMS

September 30, 2022: Effective September 30, 2022, all existing fire sprinkler systems with antifreeze additives must be replaced with either a listed antifreeze solution (not currently available), or existing fire sprinkler system must be converted to a water only, with modifications made to protect the existing fire sprinkler pipes from freezing.

6 Project Requirements Prior to Permit Approval

6.1 Prior to permit approval, WCFD must receive and review all Fire Sprinkler plans, calculations and other pertinent information pertaining to the Fire Suppression System.

6.2 Fire Sprinkler plan, calculations, and review must be accompanied by the project physical address, lot number and building permit number.

6.3 Fire Sprinkler Plans must specify an approximate location of interior and exterior alarm notification appliance location in accordance with applicable codes and approved by WCFD code official.

7 Project Completion: At the completion of the project, the fire sprinkler contractor must provide and/or verify that the following has been completed:

7.1 **Hydraulic Design Information Sign:** Provide a Hydraulic Design Information Sign for each Design Area on the riser to indicate the location of the design area, the discharge densities over the design area, the required flow and residual pressure demand at the base of the riser and the hose stream demand included in addition to sprinkler demand. [NFPA 13-24.5]

7.2 **Electric Horn and Strobe:** Verify that power has been provided to the outside electric horn and strobe/interior alarms and that all are operational and in an approved location.

7.3 **Pressure Gauges:** Provide pressure gauges such that a gauge is located above and below the back flow prevention device and/or check valve on anti-freeze system, to measure the supply and system pressures.

7.4 **Sprinkler Systems Equipped with Booster Pumps:** All equipment related to the operation of supplied booster pump must be labeled and distinguishable to prevent system failure.

7.5 **Address for Structure/Facility/Residence:** Verify that the General Contractor has provided the correct address identification for the structure/facility/residence.
Note: If the address is not installed, a final inspection will not be conducted.

7.6 **Stock of Spare Sprinklers:** Provide a supply of spare fire sprinklers in accordance with the applicable standard:

7.2.1 NFPA 13 - Section 6.2.9 - Stock of Spare Sprinklers.

7.2.2 NFPA 13R - Section 11.19 - Sprinklers.

7.2.3 NFPA 13D - Not Applicable.

7.7 **System Acceptance.** Upon completion of 7.1 through 7.6, system shall be tested to verify system will operate as per design criteria submitted by the Fire Sprinkler Contractor to WCFD. Tests shall be approved by WCFD.

WASATCH COUNTY FIRE DISTRICT
FIRE SPRINKLER DESIGN

Project Address_____

Permit Number_____ Lot Number_____

Will structure be provided with year round heat to maintain sprinkler piping to a minimum of 40 degrees Fahrenheit?

YES
NO
If NO, how will piping be protected from freezing? Explain on Rear.

As per NFPA 13D 2013 9.1.2 which method of freeze protection is being utilized? SELECT **ONE**

Dry Pipe/Pre Action

Listed Heat Tracing

Wet Pipe (WARM WALL)

Other SPECIFY_____
If OTHER, please specify how sprinkler piping will be protected and provide documentation.

Fire Sprinkler Contractor
Company_____
Name_____
Address_____
Signature_____
Date_____

General Contractor
Company_____
Name_____
Address_____
Signature_____
Date_____

ALTERNATIVE MATERIALS AND METHODS
Provide information below if Alternative Methods are proposed for approval

Architect_____
Company_____
Name_____
Address_____
Signature_____
Date_____

Home Owner_____
Company_____
Name_____
Address_____
Signature_____
Date_____

ANNEX

THE FOLLOWING IS FOR REFERENCE ONLY

NFPA 13D 2013

Dry Sprinkler Installation

A.8.2.6

A.8.2.6 (a) through A.8.2.6 (c)

Insulation

A.9.1.1

A9.1.1 (a) through A.9.1.1 (e)

www.nfpa.org/research/fire-protection-research-foundation/reports-and-proceedings/suppression/home-fire-sprinklers/sprinkler-insulation-a-literature-review

Limited Use of Antifreeze

A.9.2.2.2

National Fire Sprinkler Association

Insulation Protection

www.nfsa.tv/sq/SQjanfeb2011.pdf PAGE 15-18

Dry Sprinkler Installation

www.nfsa.tv/sq/SQjanfeb2011.pdf PAGE 19-21

Fire Protection Research Foundation

Insulation

www.nfpa.org/research/fire-protection-research-foundation/reports-and-proceedings/suppression/home-fire-sprinklers/sprinkler-insulation-a-literature-review

INFORMATION AVAILABLE AT
WASATCHCOUNTYFIRE.COM

IBC AMENDMENT STATUS LOG
PENDING
G:\Commission\067.wpd

Section to Amend	Proponent & Agency	Approved/Denied by Committee	Commission Appr/Deny for Hearing	Published	Public Hearing	Commission Appr/Deny Amendment	Effective Date
307.1	Architectural - Unified	10-7-14					
308.2	Architectural - Unified	10-7-14					
(F)908.7	Scott Marsell	2-3-15 approved					
Wasatch Fire District local amendment	Wasatch County	2-3-15 tabled					
907.2.3	Deanne Mousley	2-3-15 approved					

IRC AMENDMENT STATUS LOG
PENDING

Section to Amend	Proponent & Agency	Approved/Denied by Committee	Commission Appr/Deny for Hearing	Published	Public Hearing	Commission Appr/Deny Amendment
E3901.9	Electrical Committee	4-9-15				

IEBC AMENDMENT STATUS LOG
PENDING

Section to Amend	Proponent & Agency	Approved/Denied by Committee	Commission Appr/Deny for Hearing	Published	Public Hearing	Commission Appr/Deny Amendment	Effective Date
Section 202 - existing building	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
301.1	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
403.5	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
705.1	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
707.3.1	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
1007.3.1	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
1012.7.3	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by Architectural and Unified					
1012.8.2	Structural Advisory Committee	Approved 5-7-15 Approved 6-2-15 by					

Section to Amend	Proponent & Agency	Approved/Denied by Committee	Commission Appr/Deny for Hearing	Published	Public Hearing	Commission Appr/Deny Amendment	Effective Date
		Architectural and Unified					