



Office of Education  
and Data Management  
Fall 2017  
Career Development

October

## Radon Updates and Other Musings

Daniel Tierney, Deputy State Building Inspector

Use of Office of Education and Data Management (OEDM) training materials must be approved in writing by the State of Connecticut, Department of Administrative Services' Office of Communications.

---

---

---

---

---

---

---

---

### Radon Updates & Other Musings Introduction



- Radon Updates
- Other Musings

*Musing: a period of reflection or thought*



---

---

---

---

---

---

---

---

### Radon Updates & Other Musings Radon Updates FAQs



- Can vent pipes be in exterior walls?
- GFCI outlet in basement instead of provisions in attic?
- Is a catwalk needed to the future fan location?

*"In cold climates, do not route the pipe up through an outside wall. Routing the pipe up an outside wall will reduce the natural stack effect in the vent pipe, reducing its effectiveness."*

US EPA, Building Radon Out



---

---

---

---

---

---

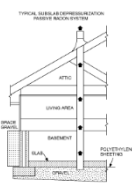
---

---

Radon Updates & Other Musings

## Radon Updates Code Path

- AF101.1 Application only to new construction
  - Does not apply to existing
  - Does not apply to new additions to existing
- AF101.2 Mitigation techniques
  - Choice of two options:
    - AF103 Passive Radon-Resistant System
      - Amended Model Code
    - AF104 Radon Mitigation Preparation
      - Added by CT
- Required to meet AF104, unless AF103 system is provided (exception #1)




---

---

---

---

---

---

---

---

Radon Updates & Other Musings

## Radon Updates Comparison of Systems

<p><b>AF103 Passive Radon System</b></p> <ul style="list-style-type: none"> <li>• Seal floor &amp; wall openings</li> <li>• Seal drains</li> <li>• Treat exterior foundation walls</li> <li>• Membrane over soil or under-slab</li> <li>• Tee fitting or drain connection</li> <li>• Vent pipe(s) through roof</li> <li>• Marked vent</li> <li>• Accessible clear space 24"</li> <li>• Circuit for future fan terminated in an approved box</li> <li>• Cap hollow foundation walls</li> <li>• Seal ducts underfloor</li> <li>• Seal off crawl spaces</li> </ul>	<p><b>AF104 Radon Mitigation Preparation</b></p> <ul style="list-style-type: none"> <li>• Seal floor &amp; wall openings</li> <li>• Seal drains</li> <li>• Treat exterior foundation walls</li> <li>• Under-slab membrane</li> <li>• Tee fitting or drain connection</li> <li>• Vent pipe(s) through roof</li> <li>• Marked vent</li> <li>• Accessible clear space 24"</li> <li>• Conduit to future fan location</li> </ul>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

---

---

---

---

---

---

---

---

Radon Updates & Other Musings

## Radon Updates Comparison of Systems

<p><b>AF103 Passive Radon System</b></p> <ul style="list-style-type: none"> <li>• Seal floor &amp; wall openings</li> <li>• Seal drains</li> <li>• Treat exterior foundation walls</li> <li>• Membrane over soil or under-slab</li> <li>• Tee fitting or drain connection</li> <li>• Vent pipe(s) through roof</li> <li>• Marked vent</li> <li>• Accessible clear space <b>24" 22"</b></li> <li>• Circuit for future fan terminated in an approved box</li> <li>• Cap hollow foundation walls</li> <li>• Seal ducts underfloor</li> <li>• Seal off crawl spaces</li> </ul>	<p><b>AF104 Radon Mitigation Preparation</b></p> <ul style="list-style-type: none"> <li>• Seal floor &amp; wall openings</li> <li>• Seal drains</li> <li>• Treat exterior foundation walls</li> <li>• Under-slab membrane</li> <li>• Tee fitting or drain connection</li> <li>• Vent pipe(s) through roof</li> <li>• Marked vent</li> <li>• Accessible clear space <b>24" 22"</b></li> <li>• Conduit to future fan location <b>or circuit for future fan terminated in an approved box</b></li> </ul> <p style="text-align: center; color: red;">Proposed 2018 State Building Code Changes</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

---

---

---

---

---

---


---

---

Radon Updates & Other Musings

### Radon Updates Passive Radon Gas Controls

- Gas-permeable layer (AF102), under slabs (AF103.4)
  - 4" thick min.
    1. Aggregate ¼ to 2" sieve, or
    2. Sand (native or fill) overlain by gas collection mat or soil gas matting
- Aggregate around T-fitting (AF104.2)
  - In 8" deep, 24" diameter hole
    - Aggregate ¼ to 2" sieve
    - Wrapped in filter fabric or equivalent material
- Concrete floors on ground (R506)
  - Base of 4"; passing a 2" sieve (R506.2.2)
  - Vapor retarder (R506.2.3); 6-mil poly or other approved




---

---

---

---

---

---

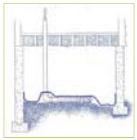

---

---

Radon Updates & Other Musings

### Radon Updates Passive Radon Gas Controls

- Section AF103 Passive Radon System
  - Specific to soil floors in crawlspace or basement
    - AF103.3.1 Soil-gas-retarder
    - AF103.3.2 3 or 4" tee below retarder


---

---

---

---

---

---

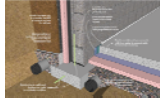
---

---

Radon Updates & Other Musings

### Radon Updates Passive Radon Gas Controls

- Sub-slab soil-gas retarder
  - Specific to poured concrete basement & slab floors
    - AF103.3.1 Soil-gas-retarder under slab
      - 12" lap
    - AF103.4.2 Closed at all penetrations
      - Pipes
      - Joints
      - Walls
      - Ducts
    - AF104 System
      - Specifies a 6 mil poly or 'approved' alternative
- Concrete floors on ground (R506)
  - Vapor retarder (R506.2.3); 6-mil poly or other approved




---

---

---

---

---

---

---

---

Radon Updates & Other Musings

### Radon Updates

#### Passive Radon Gas Controls

- Below Grade Foundation Wall Sealing
  - AF103.2.4 Dampproofing
    - Section R406 compliant
  - AF104.5 Dampproof or waterproof
    - Section R406





---

---

---

---

---

---

---


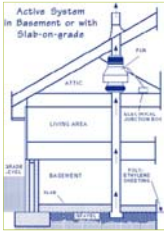

---

Radon Updates & Other Musings

### Radon Updates

#### Passive Radon Gas Controls

- AF103.3.2 Crawl Space Tee
  - 3" or 4"
  - Below soil-gas retarder
- AF103.4.3 Under Slab Tee
  - No specific size
  - Vent run through roof
  - Size consistent through vent
- AF104.2 Passive System
  - 3" tee under slab
  - 3" vent pipe through roof


---

---

---

---

---

---

---

---

Radon Updates & Other Musings

### Radon Updates

#### Passive Radon Gas Controls

- Sealing floor penetrations
  - AF 103.3.1 Fit tightly and sealed membrane
    - Specific to other than poured floors
  - AF103.4.2 Good fit and tightly sealed before slab pour
  - AF104.3 Sealed to slab with poly caulk






---

---

---

---

---

---

---

---

Radon Updates & Other Musings

### Radon Updates Passive Radon Gas Controls



- Radon / Perimeter Drain
- AF 103.5 OK under slab
- AF104.2.2 OK under slab




---

---

---

---

---

---

---

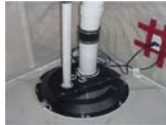
---

Radon Updates & Other Musings

### Radon Updates Passive Radon Gas Controls



- Sump Pits
- AF103.2.2 Sumps & AF104.4 Sumps
- Gasket & sealed
- Trapped inlet if a floor drain
- May act as vent / suction point




---

---

---

---

---

---

---

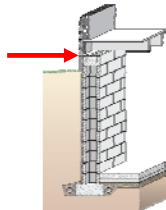
---

Radon Updates & Other Musings

### Radon Updates Passive Radon Gas Controls



- Hollow Block Foundation Walls
- AF103.2.3
- Positive stop at top
- Solid block course or beam
- Below grade holes filled
- AF104 is silent




---

---

---

---

---

---

---


---

Radon Updates & Other Musings

### Radon Updates

### Passive Radon Gas Controls

- HVAC in Crawl Spaces
  - AF103.2.5 A/C System in enclosed crawl spaces
    - Sealed to prevent air exchange
  - AF104 is silent



---

---

---

---

---

---

---

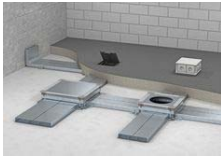
---

Radon Updates & Other Musings

### Radon Updates

### Passive Radon Gas Controls

- Under-Slab Ducts
  - AF103.2.6 Sub-slab ducts
    - Seamless or designed to always run at positive pressure
  - AF104 is silent



---

---

---

---

---

---

---

---

Radon Updates & Other Musings

### Radon Updates

### Passive Radon Gas Controls

- Crawl Space Access
  - AF103.2.7 Crawl Space Doors from basement
    - Sealed
  - AF104 is silent



---

---

---

---

---

---


---

---

Radon Updates & Other Musings

## Radon Updates Passive Radon Gas Controls

- Section AF103 Passive Radon System
  - Highlights
    - AF103.7 Combination Foundations
      - Vent for each level or area
- AF104.2.1 - Same




---

---

---

---

---

---


---

---

Radon Updates & Other Musings

## Radon Updates Passive Radon Gas Controls

- Marking of the Radon System
  - AF103.8 Vent Pipe Drainage
    - Drains like a DWV system vent
  - AF103.9 Radon vent ID
    - Specific Label
  - AF104.7 "Reserved" pipe
    - Different language




---

---

---

---

---

---


---

---

Radon Updates & Other Musings

## Radon Updates Passive Radon Gas Controls

- Future Fan Provisions
  - AF103.10 Future Fan Power
    - Circuit for area of future fan
    - Proximal box termination
  - AF104.6 Dedicated 3/4" conduit
    - Marked as dedicated for future radon
  - Proposed 2018 SBC amendment, AF104.6 gives option:
    - Circuit or conduit




---

---

---

---

---

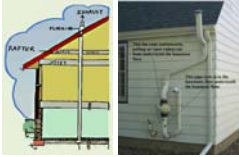
---

---

---

Radon Updates & Other Musings  
**Radon Updates**  
**Radon Jurisdiction**

- **Special Note:**
  - We ensure the under slab is prepared
  - Public Health Code retains control of the gas



The diagram shows a cross-section of a building's foundation. It labels 'Radon' entering from the ground, 'Sub-slab', and 'Sump'. A red arrow indicates radon flow. A mitigation system is shown with a pipe labeled 'Radon Mitigation System' and a 'Radon Detector'.

---

---

---

---

---

---

---

---

State of Connecticut  
Department of Administrative Services  
Division of Construction Services  
Office of Education and Data Management

# Other Musings

---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
**Other Musings**  
**Introduction**

- Chapter 1 Refreshers
- Some Random Things
- 2018 State Building Code Look Ahead



The image shows a pair of hands holding a glowing blue globe of the Earth against a dark, starry background.

---

---

---

---

---


---

---

---



State of Connecticut  
 Department of Administrative Services  
 Division of Construction Services  
 Office of Education and Data Management



# Chapter 1 Refresher

---

---

---

---


---

---

---


---

Radon Updates & Other Musings  
 Other Musings  
 Chapter 1 Refreshers



State Building Code Violations and Penalties

- Connecticut General Statutes
  - 29-254(a) Fine for violation of SBC
    - \$200-\$1000, and/or
    - 6 months of license plate fabrication duties
- Work without permit is a violation of the SBC
  - Legislation failed.
- Written notice ----> Prosecution
  - Form letters provided on DAS web site




---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
 Other Musings  
 Chapter 1 Refreshers



Who Can Apply For A Permit?

- Owner in fee or their authorized agent.
  - 29-263, 105.3.3
- Does not need to be licensed contractor.
- If it is a licensed contractor...
  - CGS sec. 20-338b Contractor Permit Application
    - Licensed contractor may sign application as authorized agent.
    - May further delegate application signature.
      - Proper documentation.
- Home improvement contractor
  - CGS Ch.400




---

---

---

---

---

---

---

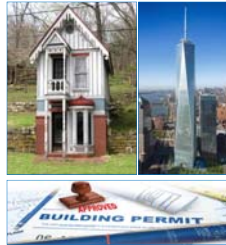
---

Radon Updates & Other Musings  
Other Musings  
Chapter 1 Refreshers



Who Can Do The Work?

- Single family, owner occupied (or intended to be)
  - Owner, all trades
  - House flippers?
  - If contractor hired for trades, must be licensed.
  - CGS 20-340
- All other situations
  - Trades work requires licensed contractor
- Department of Consumer Protection matter.
  - Building Officials are eyes and ears on ground.



---

---

---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
Other Musings  
Chapter 1 Refreshers



Who Can Design The Work?

- In general: Building plans for new buildings, additions, & alterations must be sealed by an a design professional.
- Exceptions to the sealed requirement (CGS 20-298):
  - Exempts architectural seal only.
  - Buildings less than 5,000 ft<sup>2</sup>
    - Not all use groups
    - Additions must be calculated in the building area.
    - Alterations in existing buildings >5,000 ft<sup>2</sup> require seal.
- Most buildings constructed under the IRC



---

---

---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
Other Musings  
Chapter 1 Refreshers



Who Can Design The Work?

**Sec. 20-298. Exempted activities.** The following activities are exempted from the provisions of this chapter: (1) The practice of engineering by a professional engineer licensed under the provisions of chapter 391, and the performance by such professional engineer of architectural work for which such professional engineer is qualified by education and experience and which is incidental to such professional engineer's engineering work; (2) the construction or alteration of a residential building to provide dwelling space for not more than two families, or of a private garage or other accessory building intended for use with such residential building, or of any farm building or structure for agricultural use; (3) the preparation of details and shop drawings by persons other than architects, for use in execution of the work of such persons, when buildings are designed in accordance with the requirements of this chapter; (4) the activities of employees of architects licensed in this state acting under the instructions, control or supervision of their employers; (5) the superintendence by builders, or properly qualified superintendents employed by such builders, of the construction or structural alteration of buildings or structures; (6) the activities of officers and employees of any public utility corporation whose operations are under the jurisdiction of the Public Utilities Regulatory Authority; (7) the activities of officers and employees of the government of the United States while engaged in this state in the practice of architecture for said government; and (8) the making of plans and specifications for or supervising the erection of any building, any building addition or any alteration to an existing building, where the building, including any addition, contains less than five thousand square feet total area, provided (A) this subdivision shall not be construed to exempt from the provisions of this chapter buildings of less than five thousand square feet total area of the use groups as defined in the State Building Code as follows: Assembly, educational, institutional, high hazard, transient residential, which includes hotels, motels, rooming or boarding houses, dormitories and similar buildings, and (B) the area specified in this subdivision is to be calculated from the exterior dimensions of the outside walls of the building and shall include all occupiable floors or levels.

---

---

---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
Other Musings  
Chapter 1 Refreshers



Who Can Design The Work?

- "Accepted Engineering Practice".
- Appears 56 times in IRC and its commentary.
- Meaning based on specific application.
- Does not mean an engineer is required for design.




---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
Other Musings  
Chapter 1 Refreshers



Exempt Work 105.2

- Exempt from permit requirements
  - "Permits shall not be required..."
- No building permit required, no building permit fee payable.




---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
Other Musings  
Chapter 1 Refreshers



Closure of Certain Building Permits

- The Law



Section 1. Section 29-265 of the general statutes is amended by adding subsection (c) as follows (Effective October 1, 2017):

(NEW) (c) Nine years from the date of issuance of a building permit issued pursuant to section 29-263 for construction or alteration of a one-family dwelling, two-family dwelling or structure located on the same parcel as a one-family dwelling or two-family dwelling, for which construction or alteration a certificate of occupancy, as defined in the regulations adopted pursuant to section 29-252, has not been issued by the building official, such building permit shall be deemed closed. Following such nine-year period, no enforcement action based upon work commenced or completed pursuant to an open building permit shall be commenced. No municipality or officer or employee of any such municipality shall be liable concerning any claim relating to the closure of a building permit pursuant to this section. For the purposes of this section, "structure" has the same meaning as in the zoning regulations for the municipality in which the building permit was issued, or if undefined by such regulations, "structure" means any combination of materials that is affixed to the land, including, but not limited to, a shed, garage, sign, fence, wall, pool, patio, tennis court or deck.

Approved July 10, 2017

---

---

---

---


---

---

---

---

Radon Updates & Other Musings  
**Other Musings**  
**Chapter 1 Refreshers**




Closure of Certain Building Permits

- Joseph Cassidy's 7/25/17 memo

*"The purpose of this memorandum is to provide guidance to building officials in complying with the requirements of PA 17-176, attached. This law does not require you to approve work that was not inspected. This law also does not apply to work for which a permit was never issued.*

*The following is breakdown of the Act.*

*The first sentence says that any permit over nine years old is closed. When such a permit is brought to your attention you should simply close the permit by noting that it is closed pursuant to PA 17-176, that no inspections were done (if applicable), and that no approvals were granted for this work.*




---

---

---

---

---

---


---

---

---

---

Radon Updates & Other Musings  
**Other Musings**  
**Chapter 1 Refreshers**




Closure of Certain Building Permits

- Joseph Cassidy's 7/25/17 memo

*The second sentence says that no enforcement action can be taken for the work covered by the old permit. This means you cannot charge any fees for the permit – no closure fee, investigation fee, or other fee or penalty. It also means you cannot pursue correction of work covered by the permit. The exception would be issues presenting a hazardous condition, which can be abated pursuant to Connecticut General Statute 29-393.*

*The third sentence relieves you and your municipality from any liability for closing this permit. Providing notations on the closure that no inspections were performed and no approvals granted should help protect you from liability related to any work done that you did not inspect."*




---

---

---

---

---

---

---

---

---

---



State of Connecticut  
 Department of Administrative Services  
 Division of Construction Services  
 Office of Education and Data Management

**Some Random Things**

---

---

---

---

---

---


---

---

---


---

Radon Updates & Other Musings  
**Other Musings**  
**Some Random Things**



Live Work Units

- 2005 SBC, 2009 Amd.
  - IBC 304.1.1 In-home Group B Occupancies
  - Under IRC, if max. one employee
- 2016 SBC
  - Complex relationship between IRC and IBC
  - Meets IBC 419, 1 & 2 families can be to IRC
  - Sprinkler requirements still applies, but to P2904.
- 2018 SBC
  - Model codes distinguishes townhouses in IRC
  - Proposed CT amendment to use 2009 amd. lang.



Proposed 2018 SBC, IRC portion:

*(Add) R101.2.1 Live/work units in one- and two-family dwellings: Live/work units in one- and two-family dwellings, that provide professional services and employ a maximum of one employee within the dwelling unit, shall be permitted to comply with the requirements of the 2015 International Residential Code for One- and Two-Family Dwellings portion of the 2018 State Building Code.*

---

---

---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
**Other Musings**  
**Some Random Things**



Symbol of Access

**Sec. 29-269b. Symbol of access.** Regulations. Not later than January 1, 2017, the Commissioner of Administrative Services shall promulgate a policy and adopt regulations, in accordance with the provisions of chapter 54, designating the symbol of access to be used on signage indicating access for persons with disabilities. Such symbol shall depict a logo with a dynamic character leaning forward with a sense of movement, be readily identifiable and be simply designed with no secondary meaning. Such symbol shall signify equivalent facilitation and accessibility as the previously used international symbol of access.




---

---

---

---

---

---


---

---

---

---


Radon Updates & Other Musings  
**Other Musings**  
**Some Random Things**



Symbol of Access

- In 2016 SBC from 10/1/16
- Statute in effect from 1/1/17
- State Building Inspector's interpretation:

*The dynamic symbol of access adopted by Connecticut in Public Act 16-78, codified in Connecticut General Statutes section 29-269b, complies with the requirements of 2010 Americans with Disabilities Act (ADA) Standards. Section 103 of 2010 ADA Standards provides for equivalent facilitation and states "Nothing in these requirements prevents the use of designs, products, or technologies as alternatives to those prescribed, provided they result in substantially equivalent or greater accessibility and usability." The last sentence of CGS 29-269b was included to specifically address this requirement "Such symbol shall signify equivalent facilitation and accessibility as the previously used international symbol of access." As a result of this law, the 2016 Connecticut State Building Code amended section 703.6.3.1 of ANSI A117.1 to identify the dynamic symbol as the symbol of accessibility in Connecticut.*




---

---

---

---

---

---

---

---

---


---

Radon Updates & Other Musings  
**Other Musings**  
 Some Random Things

**Oldies, But Goodies**

Stapling Methods and Vapor Retarders

- Kraft-faced batt insulation
- 2005 Technical Bulletin – CertainTeed
  - Does it need to be continuous?
  - Do tabs need to be on face of studs / joists / rafters?
  - Do tabs need to be stapled?
- ICC Interpretation ('05)
- Oak Ridge National Laboratory ('04)



ICC Interpretation 01-05

*No. The word continuous is not used in the referenced code section. Therefore, a vapor retarder is not required to be installed in a manner that will provide a continuous barrier on the warm-in-winter side of the exterior wall. The performance criteria of a vapor retarder establishes that material must have a permeance rating not exceeding 1 perm in order to limit the amount of moisture vapor that passes through a material.*

[https://www2.iccsafe.org/cs/committeeAnga/pdf\\_file/FIE\\_03\\_01\\_05.pdf](https://www2.iccsafe.org/cs/committeeAnga/pdf_file/FIE_03_01_05.pdf)

---

---

---

---

---

---

---

---

---

---

Radon Updates & Other Musings  
**Other Musings**  
 Some Random Things

**Oldies, But Goodies**

Mechanical, Plumbing & Electrical Systems

- R322.1.6 in 2015 IRC (was R327.1.5 in 2000)
- **Flood-resistant construction**
  - Protection of mechanical, plumbing and electrical systems
    - Exception added in 2003 IRC
- **Additional guidance:**
  - FEMA P-348 Protecting Building Utility Systems From Flood Damage (2017)

ICC Code Change Proposal R874-02

*For consistency with the National Flood Insurance Program, the protection against flood hazards set forth in this section is required to apply only to installations in new construction and replacement installations that are performed as part of a substantial improvement of existing buildings. Other replacements need not meet the evaluation requirement or the performance level described in the exception.*

---

---

---

---

---

---

---

---

---

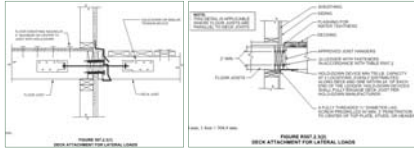
---

Radon Updates & Other Musings  
**Other Musings**  
 Some Random Things

**Oldies, But Goodies**

Deck Lateral Load Connection

- R507.2.4 Deck lateral load connection. The lateral load connection required by R507.1 shall be permitted to be in accordance with R507.2.3(1) or R507.2.3(2).



2015 Change Significance

*"Initially, a figure was added to the 2009 IRC to depict one possible connection of a deck structure to a dwelling to resist lateral loads. Since that edition, many designers and jurisdictions have mistakenly thought the connection was required."*

---

---

---

---

---

---

---

---

---

---



State of Connecticut  
Department of Administrative Services  
Division of Construction Services  
Office of Education and Data Management

# 2018 SBC

---

---

---

---

---


---

---

---

Radon Updates & Other Musings

## Other Musings 2018 State Building Code



- Based on:
  - 2015 ICC model codes
    - IBC, IRC, IECC, IEBC, IPC, IMC
  - 2017 NEC (NFPA 70)
  - 2009 ICC/ANSI A117.1
- Code change proposals reviewed
- CT Fire Safety Code on same track
- October '17  
*Codes Amendment Subcommittee*
- November '17  
*Codes and Standards Committee*
- Legal Review... Administrative Approval Process... Public Comment... LRRC
- Coming into effect:
  - Late spring 2018 (projected)

---

---

---

---

---


---

---

---

Radon Updates & Other Musings

## 2018 State Building Code Update IRC Stairs



- **R311.7.2 Headroom.** Amend exception 2. ~~6'6"~~ **6'4"**
  - Existing or replacement stairs for basements/attics being converted to habitable space.
- **R311.7.2 Landings for stairways.** Adds exception 2 for existing basement stairs' bottom landing. Min 32".
  - Allows landing to be same width as stair.
- **Replacement stairs** - width, risers, treads (various reqs.)
  - Clarifying that stairs not serving basement or attic can still can get benefits due to space constraints.
- **Frost depth:** "The footing for the grade level termination of stairs or ramps attached to decks, whether the deck is supported by a dwelling or not, shall only be required to be placed at least 12 inches (305 mm) below the undisturbed ground surface in accordance with R403.1.4."

---

---

---

---

---


---

---


---

Radon Updates & Other Musings

## 2018 State Building Code Update Photovoltaic (PV)



- **R324.7.1 Roof Access Points**
- ICC Errata removed it after first printing
  - Always keep up with ICC erratas
  - <https://www.iccsafe.org/errata-central/>
- CT proposing to reintroduce requirements




---

---

---

---

---


---

---


---

Radon Updates & Other Musings

## 2018 State Building Code Update Swimming Pools etc.



- 2015 IRC & IBC model codes both defer to the International Swimming Pool and Spa Code (ISPSC)
- CT proposing to readopt language from 2012 model codes (as amended) for both IRC and IBC.
- Will not reference ISPSC.
- **Note:** the 2015 IBC model code 1<sup>st</sup> printing has swimming pool requirements at S.3109, but they were removed by errata.
- The 2015 IRC model code 1<sup>st</sup> printing always deferred to the ISPSC.




---

---

---

---

---


---

---

---

Radon Updates & Other Musings

## 2018 State Building Code Update CSST Gas Piping



**Adopts 2018 IRC language into CT's adoption of the 2015 IRC**

- (Add) **G2411.2 (310.1.1) CSST.** This section applies to corrugated stainless steel tubing (CSST) that is not listed with an arc-resistant jacket or coating system in accordance with ANSI L1/CSA 6.26. CSST gas piping systems and piping systems containing one or more segments of CSST shall be electrically continuous and bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.
- (Add) **G2411.2.1 (310.1.1.1) Point of connection.** The bonding jumper shall connect to a metallic pipe, pipe fitting or CSST fitting.
- (Add) **G2411.2.2 (310.1.1.2) Size and material of jumper.** The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent.
- (Add) **G2411.2.3 (310.1.1.3) Bonding jumper length.** The length of the bonding jumper between the connection to a gas piping system and the connection to a grounding electrode system shall not exceed 75 feet (22 860 mm). Any additional grounding electrodes installed to meet this requirement shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.
- (Add) **G2411.2.4 (310.1.1.4) Bonding connections.** Bonding connections shall be in accordance with NFPA 70.
- (Add) **G2411.2.5 (310.1.1.5) Connection devices.** Devices used for making the bonding connections shall be listed for the application in accordance with UL 467.

**Regular CSST**

---

---

---

---

---

---

---

---



Radon Updates & Other Musings  
 2018 State Building Code Update  
 CSST Gas Piping

**Arc-Resistant CSST**

- (Add) **G2411.3 Arc-resistant CSST.** This section applies to corrugated stainless steel tubing (CSST) that is listed with an arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. The CSST shall be electrically continuous and bonded to an effective ground fault current path. Where any CSST component of a piping system does not have an arc-resistant jacket or coating system, the bonding requirements of Section G2411.2 shall apply. Arc-resistant-jacketed CSST shall be considered to be bonded where it is connected to an appliance that is connected to the appliance grounding conductor of the circuit that supplies that appliance.
- Amended section G2411 gives three code paths:
  - G2411.1 – Pipe and tubing other than CSST
  - G2411.2 – CSST
  - G2411.3 – Arc-resistant CSST

---

---

---

---

---

---

---

---

---

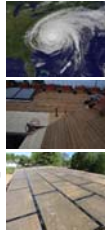
---

Radon Updates & Other Musings  
 2018 State Building Code Update  
 Roof Taping for Resiliency

**(Amnd) R905.1.1 Underlayment.** Underlayment for asphalt shingles, clay and concrete tile, metal roof shingles, mineral surfaced roll roofing, slate and slate-type shingles, wood shingles, wood shakes and metal roof panels shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D 226, D 1970, D 4869 and D 6757 shall bear a label indicating compliance to the standard designation and, if applicable, type classification indicated in Table R905.1.1(1). A minimum 4-inch-wide (102 mm) strip of self-adhering polymer-modified bitumen membrane complying with ASTM D 1970, installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. Underlayment shall be applied over the entire roof and over the 4-inch-wide (102 mm) membrane strips and shall be applied in accordance with Table R905.1.1(2). Underlayment shall be attached in accordance with Table R905.1.1(3).

**Exceptions:**

1. As an alternative, self-adhering polymer-modified bitumen underlayment complying with ASTM D 1970 installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed, shall be permitted.
2. The 4-inch-wide (102 mm) strips of self-adhering polymer-modified bitumen membrane are not required for roofs continuously sheathed with lumber having a nominal width 12 inches (305 mm) or less.




---

---

---

---

---

---

---

---

---

---

State of Connecticut  
 Department of Administrative Services  
 Division of Construction Services  
 Office of Education and Data Management

Office of Education and Data Management  
 Career Development Series

# QUESTIONS?

Use of Office of Education and Data Management (OEDM) training materials must be approved in writing by the State of Connecticut, Department of Administrative Services' Office of Communications.

---

---

---

---

---

---

---

---

---

---