

## HB0037S01 compared with HB0037

~~{deleted text}~~ shows text that was in HB0037 but was deleted in HB0037S01.

Inserted text shows text that was not in HB0037 but was inserted into HB0037S01.

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Representative Mike Schultz proposes the following substitute bill:

### STATE CONSTRUCTION CODE AMENDMENTS

2017 GENERAL SESSION

STATE OF UTAH

**Chief Sponsor: Mike Schultz**

Senate Sponsor: Curtis S. Bramble

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#### LONG TITLE

~~{Committee Note:~~

~~— The Business and Labor Interim Committee recommended this bill.~~

~~{General Description:~~

This bill amends provisions related to the state construction code.

#### Highlighted Provisions:

This bill:

- ▶ amends a provision related to residential installation of electrical outlets;
- ▶ amends a provision related to drainage systems;
- ▶ amends a provision related to the installation of passive radon controls; and
- ▶ amends a provision related to natural gas-fired water heater emissions.

#### Money Appropriated in this Bill:

None

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### Other Special Clauses:

None

### Utah Code Sections Affected:

AMENDS:

15A-3-202, as last amended by Laws of Utah 2016, Chapter 249

15A-3-206, as last amended by Laws of Utah 2016, Chapter 249

15A-6-102, as enacted by Laws of Utah 2016, Chapter 249

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*Be it enacted by the Legislature of the state of Utah:*

Section 1. Section 15A-3-202 is amended to read:

**15A-3-202. Amendments to Chapters 1 through 5 of IRC.**

(1) In IRC, Section R102, a new Section R102.7.2 is added as follows: "R102.7.2 Physical change for bedroom window egress. A structure whose egress window in an existing bedroom is smaller than required by this code, and that complied with the construction code in effect at the time that the bedroom was finished, is not required to undergo a physical change to conform to this code if the change would compromise the structural integrity of the structure or could not be completed in accordance with other applicable requirements of this code, including setback and window well requirements."

(2) In IRC, Section 109:

(a) A new IRC, Section 109.1.5, is added as follows: "R109.1.5 Weather-resistant exterior wall envelope inspections. An inspection shall be made of the weather-resistant exterior wall envelope as required by Section R703.1 and flashings as required by Section R703.8 to prevent water from entering the weather-resistive barrier."

(b) The remaining sections are renumbered as follows: R109.1.6 Other inspections; R109.1.6.1 Fire- and smoke-resistance-rated construction inspection; R109.1.6.2 Reinforced masonry, insulating concrete form (ICF) and conventionally formed concrete wall inspection; and R109.1.7 Final inspection.

(3) IRC, Section R114.1, is deleted and replaced with the following: "R114.1 Notice to owner. Upon notice from the building official that work on any building or structure is being prosecuted contrary to the provisions of this code or other pertinent laws or ordinances or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop work order

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shall be in writing and shall be given to the owner of the property involved, or to the owner's agent or to the person doing the work; and shall state the conditions under which work will be permitted to resume."

(4) In IRC, Section R202, the following definition is added: "CERTIFIED BACKFLOW PREVENTER ASSEMBLY TESTER: A person who has shown competence to test Backflow prevention assemblies to the satisfaction of the authority having jurisdiction under Utah Code, Subsection 19-4-104(4)."

(5) In IRC, Section R202, the definition for "CONDITIONED SPACE" is modified by deleting the words at the end of the sentence "being heated or cooled by any equipment or appliance" and replacing them with the following: "enclosed within the building thermal envelope that is directly heated or cooled, or indirectly heated or cooled by any of the following means:

1. Openings directly into an adjacent conditioned space.
2. An un-insulated floor, ceiling or wall adjacent to a conditioned space.
3. Un-insulated duct, piping or other heat or cooling source within the space."

(6) In IRC, Section R202, the definition of "Cross Connection" is deleted and replaced with the following: "CROSS CONNECTION. Any physical connection or potential connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other either water of unknown or questionable safety or steam, gas, or chemical, whereby there exists the possibility for flow from one system to the other, with the direction of flow depending on the pressure differential between the two systems (see "Backflow, Water Distribution")."

(7) In IRC, Section 202, in the definition for gray water a comma is inserted after the word "washers"; the word "and" is deleted; and the following is added to the end: "and clear water wastes which have a pH of 6.0 to 9.0; are non-flammable; non-combustible; without objectionable odors; non-highly pigmented; and will not interfere with the operation of the sewer treatment facility."

(8) In IRC, Section R202, the definition of "Potable Water" is deleted and replaced with the following: "POTABLE WATER. Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming to the Utah Code, Title 19, Chapter 4, Safe Drinking Water Act, and Title 19, Chapter 5, Water Quality Act, and

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the regulations of the public health authority having jurisdiction."

(9) IRC, Figure R301.2(5), is deleted and replaced with Table R301.2(5a) and Table R301.2(5b) as follows:

"TABLE NO. R301.2(5a)				
STATE OF UTAH - REGIONAL SNOW LOAD FACTORS				
	COUNTY	P <sub>o</sub>	S	A <sub>o</sub>
	Beaver	43	63	6.2
	Box Elder	43	63	5.2
	Cache	50	63	4.5
	Carbon	43	63	5.2
	Daggett	43	63	6.5
	Davis	43	63	4.5
	Duchesne	43	63	6.5
	Emery	43	63	6.0
	Garfield	43	63	6.0
	Grand	36	63	6.5
	Iron	43	63	5.8
	Juab	43	63	5.2
	Kane	36	63	5.7
	Millard	43	63	5.3
	Morgan	57	63	4.5
	Piute	43	63	6.2
	Rich	57	63	4.1
	Salt Lake	43	63	4.5
	San Juan	43	63	6.5
	Sanpete	43	63	5.2
	Sevier	43	63	6.0
	Summit	86	63	5.0
	Tooele	43	63	4.5

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	Uintah	43	63	7.0
	Utah	43	63	4.5
	Wasatch	86	63	5.0
	Washington	29	63	6.0
	Wayne	36	63	6.5
	Weber	43	63	4.5

TABLE NO. R301.2(5b)

REQUIRED SNOW LOADS FOR SELECTED UTAH CITIES AND TOWNS<sup>1,2</sup>

The following jurisdictions require design snow load values that differ from the Equation in the Utah Snow Load Study.

County	City	Elevation	Ground Snow Load (psf)	Roof Snow Load (psf) <sup>6</sup>
Carbon	Price <sup>3</sup>	5550	43	30
	All other county locations <sup>5</sup>	--	--	--
Davis	Fruit Heights <sup>3</sup>	4500 - 4850	57	40
Emery	Green River <sup>3</sup>	4070	36	25
Garfield	Panguitch <sup>3</sup>	6600	43	30
Rich	Woodruff <sup>3</sup>	6315	57	40
	Laketown <sup>4</sup>	6000	57	40
	Garden City <sup>5</sup>	--	--	--
	Randolph <sup>4</sup>	6300	57	40
San Juan	Monticello <sup>3</sup>	6820	50	35
Summit	Coalville <sup>3</sup>	5600	86	60
	Kamas <sup>4</sup>	6500	114	80
Tooele	Tooele <sup>3</sup>	5100	43	30
Utah	Orem <sup>3</sup>	4650	43	30
	Pleasant Grove <sup>4</sup>	5000	43	30
	Provo <sup>5</sup>	--	--	--
Wasatch	Heber <sup>5</sup>	--	--	--

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Washington	Leeds <sup>3</sup>	3460	29	20
	Santa Clara <sup>3</sup>	2850	21	15
	St. George <sup>3</sup>	2750	21	15
	All other county locations <sup>5</sup>	--	--	--
Wayne	Loa <sup>3</sup>	7080	43	30
<sup>1</sup> The IRC requires a minimum live load -- See R301.6.				
<sup>2</sup> This table is informational only in that actual site elevations may vary. Table is only valid if site elevation is within 100 feet of the listed elevation. Otherwise, contact the local Building Official.				
<sup>3</sup> Values adopted from Table VII of the Utah Snow Load Study				
<sup>4</sup> Values based on site-specific study. Contact local Building Official for additional information.				
<sup>5</sup> Contact local Building Official.				
<sup>6</sup> Based on $C_e = 1.0$ , $C_t = 1.0$ and $I_s = 1.0$ "				

(10) IRC, Section R301.6, is deleted and replaced with the following: "R301.6 Utah Snow Loads. The snow loads specified in Table R301.2(5b) shall be used for the jurisdictions identified in that table. Otherwise, the ground snow load,  $P_g$ , to be used in the determination of design snow loads for buildings and other structures shall be determined by using the following formula:  $P_g = (P_o^2 + S^2(A-A_o)^2)^{0.5}$  for A greater than  $A_o$ , and  $P_g = P_o$  for A less than or equal to  $A_o$ .

WHERE:

$P_g$  = Ground snow load at a given elevation (psf);

$P_o$  = Base ground snow load (psf) from Table No. R301.2(5a);

S = Change in ground snow load with elevation (psf/100 ft.) From Table No. R301.2(5a);

A = Elevation above sea level at the site (ft./1,000);

$A_o$  = Base ground snow elevation from Table R301.2(5a) (ft./1,000).

The building official may round the roof snow load to the nearest 5 psf. The ground snow load,  $P_g$ , may be adjusted by the building official when a licensed engineer or architect submits data substantiating the adjustments.

Where the minimum roof live load in accordance with Table R301.6 is greater than the design

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roof snow load, such roof live load shall be used for design, however, it shall not be reduced to a load lower than the design roof snow load. Drifting need not be considered for roof snow loads less than 20 psf."

(11) In IRC, Section R302.5.1, the words "self-closing device" are deleted and replaced with "self-latching hardware".

(12) IRC, Section R302.13, is deleted.

(13) In IRC, Section R303.4, the number "5" is changed to "3" in the first sentence.

(14) IRC, Sections R311.7.4 through R311.7.5.3, are deleted and replaced with the following: "R311.7.4 Stair treads and risers. R311.7.5.1 Riser height. The maximum riser height shall be 8 inches (203 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.5.2 Tread depth. The minimum tread depth shall be 9 inches (228 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12-inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.5.3 Profile. The radius of curvature at the leading edge of the tread shall be no greater than 9/16 inch (14.3 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed 1/2 inch (12.7 mm). Risers shall be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.

Exceptions.

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1. A nosing is not required where the tread depth is a minimum of 10 inches (254 mm).
2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less."

(15) IRC, Section R312.2, is deleted.

(16) IRC, Sections R313.1 through R313.2.1, are deleted and replaced with the following: "R313.1 Design and installation. When installed, automatic residential fire sprinkler systems for townhouses or one- and two-family dwellings shall be designed and installed in accordance with Section P2904 or NFPA 13D."

(17) In IRC, Section 315.3, the following words are added to the first sentence after the word "installed": "on each level of the dwelling unit and".

(18) In IRC, Section R315.5, a new exception, 3, is added as follows:

"3. Hard wiring of carbon monoxide alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring, without the removal of interior finishes."

(19) A new IRC, Section R315.7, is added as follows: " R315.7 Interconnection.

Where more than one carbon monoxide alarm is required to be installed within an individual dwelling unit in accordance with Section R315.1, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

Exception: Interconnection of carbon monoxide alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for interconnection without the removal of interior finishes."

(20) In IRC, Section R403.1.6, a new Exception 3 is added as follows: " 3. When anchor bolt spacing does not exceed 32 inches (813 mm) apart, anchor bolts may be placed with a minimum of two bolts per plate section located not less than 4 inches (102 mm) from each end of each plate section at interior bearing walls, interior braced wall lines, and at all exterior walls."

(21) In IRC, Section R403.1.6.1, a new exception is added at the end of Item 2 and



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Item 3 as follows: "Exception: When anchor bolt spacing does not exceed 32 inches (816 mm) apart, anchor bolts may be placed with a minimum of two bolts per plate section located not less than 4 inches (102 mm) from each end of each plate section at interior bearing walls, interior braced wall lines, and at all exterior walls."

(22) In IRC, Section R404.1, a new exception is added as follows: "Exception: As an alternative to complying with Sections R404.1 through R404.1.5.3, concrete and masonry foundation walls may be designed in accordance with IBC Sections 1807.1.5 and 1807.1.6 as amended in Section 1807.1.6.4 and Table 1807.1.6.4 under these rules."

(23) In IRC, Section R405.1, a new exception is added as follows: "Exception: When a geotechnical report has been provided for the property, a drainage system is not required unless the drainage system is required as a condition of the geotechnical report."

Section ~~15A-3-206~~<sup>2</sup>. Section **15A-3-206** is amended to read:

### **15A-3-206. Amendments to Chapters 39, 44, and Appendix F of IRC.**

(1) In IRC, Section E3901.9, the following exception is added:

"Exception: Receptacles or other outlets adjacent to the exterior walls of the garage, outlets adjacent to an exterior wall of the garage, or outlets in a storage room with entry from the garage may be connected to the garage branch circuit."

(2) ~~In~~ IRC, Section E3902.16~~, the following words in the first sentence are deleted: "~~family rooms, dining rooms, living rooms, parlors, libraries, dens," and "sunrooms, recreation rooms, closets, hallways, and similar rooms or areas."~~]~~ is deleted.

(3) In Section E3902.17:

(a) following the word "Exception" the number "1." is added; and

(b) at the end of the section, the following sentences are added:

"2. This section does not apply for a simple move or an extension of a branch circuit or an outlet which does not significantly increase the existing electrical load. This exception does not include changes involving remodeling or additions to a residence."

(4) IRC, Chapter 44, is amended by adding the following reference standard:

"Standard reference number	Title	Referenced in code section number
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USC-FCCCHR 10th Edition Manual of Cross Connection Control	Foundation for Cross-Connection Control and Hydraulic Research University of Southern California Kaprielian Hall 300 Los Angeles CA 90089-2531	Table P2902.3"
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(5) (a) When passive radon controls or portions thereof are voluntarily installed, the voluntary installation shall comply with Appendix F of the IRC.

(b) An additional inspection of a voluntary installation described in Subsection (5)(a) is not required.

Section ~~2~~3. Section **15A-6-102** is amended to read:

**15A-6-102. Nitrogen Oxide emission limits for natural gas-fired water heaters.**

(1) As used in this section:

(a) "BTU" means British Thermal Unit.

(b) (i) "Heat input" means the heat of combustion released by fuel burned in a water heater based on the heating value of the fuel.

(ii) "Heat input" does not include the enthalpy of a water heater's incoming combustion air.

(c) "Heat output" means the enthalpy of a water heater's working fluid output.

(d) "Natural gas-fired water heater" means a device that heats water:

(i) using natural gas combustion;

(ii) for use external to the device at a pressure that is less than or equal to 160 pounds per square inch gage; and

(iii) to a thermostatically controlled temperature less than or equal to:

(A) 210 degrees Fahrenheit; or

(B) 99 degrees Celsius.

(e) "ppm" means parts of Nitrogen Oxide per million parts of water heater air output.

(f) "Recreational vehicle" means the same as that term is defined in Section 13-14-102.

(2) ~~Subject to Subsection (6)~~ On and after July 1, 2018, a person may not sell or install a natural gas-fired water heater with an emission rate greater than the following limits:

(a) for a water heater that has a heat input of less than or equal to 75,000 BTU per hour that is not installed in a mobile home, a limit of:

(i) 10 nanograms per Joule of heat output; or

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- (ii) 15 ppm, corrected to 3% oxygen;
- (b) for a water heater that has a heat input of greater than 75,000 BTU per hour and less than 2,000,000 BTU per hour that is not installed in a mobile home, a limit of:
  - (i) [10] 14 nanograms per Joule of heat output; or
  - (ii) 20 ppm, corrected to 3% oxygen;
- (c) for a water heater installed in a mobile home, a limit of:
  - (i) 40 nanograms per Joule of heat output; or
  - (ii) [20] 55 ppm, corrected to 3% oxygen;
- (d) for a pool or spa water heater with a heat input that is less than or equal to 400,000 BTU per hour, a limit of:
  - (i) 40 nanograms per Joule of heat output; or
  - (ii) 55 ppm, corrected to 3% oxygen; and
- (e) for a pool or spa water heater with a heat input of greater than 400,000 BTU per hour and less than 2,000,000 BTU per hour, a limit of:
  - (i) 14 nanograms per Joule of heat output; or
  - (ii) [55] 20 ppm, corrected to 3% oxygen.
- (3) A water heater manufacturer shall use California South Coast Air Quality Management District Method 100.1 to calculate the emissions rate of a water heater subject to this section.
- (4) A water heater manufacturer shall display on a water heater subject to this section, as a permanent label, the model number and the Nitrogen Oxide emission rate of the water heater.
- (5) The requirements of this section do not apply to:
  - (a) a water heater using a fuel other than natural gas;
  - (b) a water heater used in a recreational vehicle;
  - (c) a water heater manufactured in the state for sale and shipment outside of the state;or
  - (d) a water heater manufactured before July 1, 2018.
- ~~[(6) Subsection (2) applies to the sale or installation of a water heater on or after July 1, 2018.]~~

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~~Legislative Review Note~~

~~Office of Legislative Research and General Counsel~~