	STATE BUILDING CODE AMENDMENTS
2	2018 GENERAL SESSION
3	STATE OF UTAH
ŀ	Chief Sponsor: Karen Mayne
5	House Sponsor: Mike Schultz
,	LONG TITLE
	General Description:
	This bill amends Statewide Amendments Incorporated as Part of State Construction
	Code.
	Highlighted Provisions:
	This bill:
	• amends a provision of the International Building Code to provide that an individual
	who performs fireproof coating may obtain certain certification;
	• amends a provision of the International Residential Code regarding when a drainage
	system is not required; and
	<ul> <li>makes technical and conforming changes.</li> </ul>
	Money Appropriated in this Bill:
	None
	Other Special Clauses:
	None
	Utah Code Sections Affected:
	AMENDS:
	15A-3-104, as last amended by Laws of Utah 2016, Chapter 249
	15A-3-202, as last amended by Laws of Utah 2017, Chapter 236
	Be it enacted by the Legislature of the state of Utah.
	Section 1 Section 15A-3-104 is amended to read:

15A-3-104. Amendments to Chapters 7 through 9 of IBC.
(1) In IBC, Section 704.13.2, the following sentence is added to the end of the section:
"An individual spraying fire-resistant materials may obtain a certificate that demonstrates that
the individual has undergone training on how to spray fire-resistant materials to manufacturer's
specifications."
[(1)] (2) IBC, Section (F)901.8, is deleted and replaced with the following: "(F)901.8
Pump and riser room size. Fire pump and automatic sprinkler system riser rooms shall be
designed with adequate space for all installed equipment necessary for the installation and to
provide sufficient working space around the stationary equipment. Clearances around
equipment shall be in accordance with manufacturer requirements and not less than the
following minimum elements:
901.8.1 A minimum clear and unobstructed distance of 12-inches shall be provided from the
installed equipment to the elements of permanent construction.
901.8.2 A minimum clear and unobstructed distance of 12-inches shall be provided between
all other installed equipment and appliances.
901.8.3 A clear and unobstructed width of 36-inches shall be provided in front of all installed
equipment and appliances, to allow for inspection, service, repair or replacement without
removing such elements of permanent construction or disabling the function of a required
fire-resistance-rated assembly.
901.8.4 Automatic sprinkler system riser rooms shall be provided with a clear and
unobstructed passageway to the riser room of not less than 36-inches, and openings into the
room shall be clear and unobstructed, with doors swinging in the outward direction from the
room and the opening providing a clear width of not less than 34-inches and a clear height of
the door opening shall not be less than 80-inches.
901.8.5 Fire pump rooms shall be provided with a clear and unobstructed passageway to the
fire pump room of not less than 72-inches, and openings into the room shall be clear,
unobstructed and large enough to allow for the removal of the largest piece of equipment, with

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56 doors swinging in the outward direction from the room and the opening providing a clear width 57 of not less than 68-inches and a clear height of the door opening shall not be less than 58 80-inches." 59 [(2)] (3) In IBC, Section (F)903.2.2, the words "the entire floor" are deleted and 60 replaced with "a building" and the last paragraph is deleted. [(3)] (4) IBC, Section (F)903.2.4, condition 2, is deleted and replaced with the 61 62 following: "2. A Group F-1 fire area is located more than three stories above the lowest level 63 of fire department vehicle access." 64 [(4)] (5) IBC, Section (F)903.2.7, condition 2, is deleted and replaced with the following: "2. A Group M fire area is located more than three stories above the lowest level of 65 66 fire department vehicle access." 67 [<del>(5)</del>] (6) IBC, Sections (F)903.2.8, (F)903.2.8.1, (F)903.2.8.2, and (F)903.2.8.4, are deleted and replaced with the following: "(F)903.2.8 Group R. An automatic sprinkler system 68 69 installed in accordance with Section 903.3 shall be provided throughout all buildings with a 70 Group R fire area. 71 Exceptions: 72 1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) 73 constructed in accordance with the International Residential Code For One- and Two-Family 74 Dwellings. 75 2. Single story Group R-1 occupancies with fire areas not more than 2,000 square feet that 76 contain no installed plumbing or heating, where no cooking occurs, and constructed of Type 77 I-A. I-B. II-A. or II-B construction." 78 [<del>(6)</del>] (7) IBC, Sections (F)903.2.8.3 and (F)903.2.8.3.1, are renumbered to (F)903.2.8.1 79 and (F)903.2.8.1.1. 80 [(7)] (8) IBC, Section (F)903.2.8.3.2, is renumbered to (F)903.2.8.1.2 and the 81 following exception is added: 82 "Exception: Group R-4 fire areas not more than 4,500 gross square feet and not containing

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83 more than 16 residents, provided the building is equipped throughout with an approved fire 84 alarm system that is interconnected and receives its primary power from the building wiring 85 and a commercial power system." 86 [(8)] (9) IBC, Section (F)903.2.8.4, is deleted. 87 [(9)] (10) IBC, Section (F)903.2.9, condition 2, is deleted and replaced with the 88 following: "2. A Group S-1 fire area is located more than three stories above the lowest level 89 of fire department vehicle access." 90 [(10)] (11) IBC, Section (F)904.12, is deleted and replaced with the following: " 91 (F)904.12 Commercial cooking systems. The automatic fire-extinguishing system for 92 commercial cooking systems shall be of a type recognized for protection of commercial 93 cooking equipment and exhaust systems. Pre-engineered automatic extinguishing systems 94 shall be tested in accordance with UL 300 and listed and labeled for the intended application. 95 The system shall be installed in accordance with this code, its listing and the manufacturer's 96 installation instructions. 97 Exception: Factory-built commercial cooking recirculating systems that are tested in 98 accordance with UL 710B and listed, labeled, and installed in accordance with Section 304.1 of 99 the International Mechanical Code." 100 [(11)] (12) IBC, Sections (F)904.12.3, (F)904.12.3.1, (F)904.12.4, and (F)904.12.4.1, 101 are deleted. 102 [(12)] (13) In IBC, Section 905, a new subsection, Section (F)905.3.9, is added as 103 follows: 104 "Open Parking Garages. Open parking garages shall be equipped with an approved 105 Class 1 manual standpipe system when fire department access is not provided for firefighting 106 operations to within 150 feet of all portions of the open parking garage as measured from the 107 approved fire department vehicle access. Class 1 manual standpipe shall be accessible 108 throughout the parking garage such that all portions of the parking structure are protected 109 within 150 feet of a hose connection."

110 [(13)] (14) In IBC, Section (F)905.8, the exception is deleted and replaced with the
111 following:

"Exception: Where subject to freezing and approved by the fire code official."
[(14)] (15) In IBC, Section (F)907.2.3 Group E, the first sentence is deleted and
rewritten as follows: "A manual fire alarm system that activates the occupant notification
system in accordance with Section (F)907.5 shall be installed, in accordance with Section
(F)907.6 and administrative rules made by the State Fire Prevention Board in Group E
occupancies."

118 [(15)] (16) IBC, Sections (F)915 through (F)915.6, are deleted and replaced with the 119 following:

120 "(F)915 Where required.

121 Group I-1, I-2, I-4, and R occupancies located in a building containing a fuel-burning appliance 122 or in a building that has an attached garage shall be equipped with single-station carbon 123 monoxide alarms. The carbon monoxide alarms shall be listed as complying with UL 2034 or 124 UL 2075 and be installed and maintained in accordance with NFPA 720 and the manufacturer's 125 instructions. An open parking garage, as defined in Chapter 2, or an enclosed parking garage, 126 ventilated in accordance with Section 404 of the International Mechanical Code, shall not be 127 considered an attached garage. A minimum of one carbon monoxide alarm shall be installed 128 on each habitable level.

129 (F)915.1 Interconnection.

Where more than one carbon monoxide alarm is required to be installed within Group I-1, I-2, I-4, or R occupancies, the carbon monoxide alarm shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms. Physical interconnection of carbon monoxide alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

136 (F)915.2 Power source.

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137 In new construction, required carbon monoxide alarms shall receive their primary power from

138 the building wiring where such wiring is served from a commercial source and shall be

139 equipped with a battery backup. Carbon monoxide alarms with integral strobes that are not

140 equipped with a battery backup shall be connected to an emergency electrical system. Carbon

141 monoxide alarms shall emit a signal when the batteries are low. Wiring shall be permanent and

142 without a disconnecting switch other than as required for overcurrent protection.

143 Exceptions.

144 1. Carbon monoxide alarms are not required to be equipped with a battery backup where they145 are connected to an emergency electrical system.

146 2. Hard wiring of carbon monoxide alarms in existing areas shall not be required where the

147 alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing

148 the structure, unless there is an attic, crawl space, or basement available that could provide

149 access for hard wiring without the removal of interior finishes.

150 (F)915.3 Group E.

151 A carbon monoxide detection system shall be installed in new buildings that contain Group E

152 occupancies in accordance with IFC, Chapter 9, Section 915. A carbon monoxide detection

153 system shall be installed in existing buildings that contain Group E occupancies in accordance

154 with IFC, Chapter 11, Section 1103.9.

155 (F)915.3.1 Where required.

156 In Group E occupancies, a carbon monoxide detection system shall be provided where a

157 fuel-burning appliance, a fuel-burning fireplace, or a fuel-burning forced air furnace is present.

158 (F)915.3.2 Detection equipment.

159 Each carbon monoxide detection system shall be installed in accordance with NFPA 720 and

160 the manufacturer's instructions and be listed as complying with, for single station detectors, UL

161 2034 and, for system detectors, UL 2075.

162 (F)915.3.3 Locations.

163 Each carbon monoxide detection system shall be installed in the locations specified in NFPA

164	720.
165	(F)915.3.4 Combination detectors.
166	A combination carbon monoxide/smoke detector is an acceptable alternative to a carbon
167	monoxide detection system if the combination carbon monoxide/smoke detector is listed in
168	accordance with UL 2075 and UL 268.
169	(F)915.3.5 Power source.
170	Each carbon monoxide detection system shall receive primary power from the building wiring
171	if the wiring is served from a commercial source. If primary power is interrupted, each carbon
172	monoxide detection system shall receive power from a battery. Wiring shall be permanent and
173	without a disconnecting switch other than that required for overcurrent protection.
174	(F)915.3.6 Maintenance.
175	Each carbon monoxide detection system shall be maintained in accordance with NFPA 720. A
176	carbon monoxide detection system that becomes inoperable or begins to produce end of life
177	signals shall be replaced."
178	Section 2. Section 15A-3-202 is amended to read:
179	15A-3-202. Amendments to Chapters 1 through 5 of IRC.
180	(1) In IRC, Section R102, a new Section R102.7.2 is added as follows: "R102.7.2
181	Physical change for bedroom window egress. A structure whose egress window in an existing
182	bedroom is smaller than required by this code, and that complied with the construction code in
183	effect at the time that the bedroom was finished, is not required to undergo a physical change to
184	conform to this code if the change would compromise the structural integrity of the structure or
185	could not be completed in accordance with other applicable requirements of this code,
186	including setback and window well requirements."
187	(2) In IRC, Section 109:
188	(a) A new IRC, Section 109.1.5, is added as follows: "R109.1.5 Weather-resistant
189	exterior wall envelope inspections. An inspection shall be made of the weather-resistant
190	exterior wall envelope as required by Section R703.1 and flashings as required by Section

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191 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
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:

212 1. Openings directly into an adjacent conditioned space.

213 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

217 connection or arrangement between two otherwise separate piping systems, one of which

218 contains potable water and the other either water of unknown or questionable safety or steam,

219 gas, or chemical, whereby there exists the possibility for flow from one system to the other,

220 with the direction of flow depending on the pressure differential between the two systems (see

221 "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
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:

234		"TABLE NO	. R301.2(5a)	
235	STATE OF U	TAH - REGION	AL SNOW LOA	D FACTORS
236	COUNTY	Ро	S	Ao
237	Beaver	43	63	6.2
238	Box Elder	43	63	5.2
239	Cache	50	63	4.5
240	Carbon	43	63	5.2
241	Daggett	43	63	6.5
242	Davis	43	63	4.5
243	Duchesne	43	63	6.5

244	Emery	43	63	6.0
245	Garfield	43	63	6.0
246	Grand	36	63	6.5
247	Iron	43	63	5.8
248	Juab	43	63	5.2
249	Kane	36	63	5.7
250	Millard	43	63	5.3
251	Morgan	57	63	4.5
252	Piute	43	63	6.2
253	Rich	57	63	4.1
254	Salt Lake	43	63	4.5
255	San Juan	43	63	6.5
256	Sanpete	43	63	5.2
257	Sevier	43	63	6.0
258	Summit	86	63	5.0
259	Tooele	43	63	4.5
260	Uintah	43	63	7.0
261	Utah	43	63	4.5
262	Wasatch	86	63	5.0
263	Washington	29	63	6.0
264	Wayne	36	63	6.5
265	Weber	43	63	4.5
266		TABLE N	O. R301.2(5b)	
267	REQUIRED SNOW L	OADS FOR SEL	ECTED UTAH	CITIES AND TOWNS1,2

268	The following jurisdictions require design snow load values that differ from the Equation in			e Equation in	
	the Utah Snow Load Study.				
269	County	City	Elevation	Ground Snow	Roof Snow
				Load (psf)	Load (psf) 6
270	Carbon	Price3	5550	43	30
		All other county locations5			
271	Davis	Fruit Heights3	4500 - 4850	57	40
272	Emery	Green River3	4070	36	25
273	Garfield	Panguitch3	6600	43	30
274	Rich	Woodruff3	6315	57	40
		Laketown4	6000	57	40
		Garden City5			
		Randolph4	6300	57	40
275	San Juan	Monticello3	6820	50	35
276	Summit	Coalville3	5600	86	60
		Kamas4	6500	114	80
277	Tooele	Tooele3	5100	43	30
278	Utah	Orem3	4650	43	30
		Pleasant Grove4	5000	43	30
		Provo5			
279	Wasatch	Heber5			
280	Washington	Leeds3	3460	29	20
		Santa Clara3	2850	21	15
		St. George3	2750	21	15
		All other county locations5			
281	Wayne	Loa3	7080	43	30

282	1The IRC requires a minimum live load See R301.6.			
283	2This 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.			
284	3Values adopted from Table VII of the Utah Snow Load Study			
285	4Values based on site-specific study. Contact local Building Official for additional			
	information.			
286	5Contact local Building Official.			
287	6Based on Ce =1.0, Ct =1.0 and Is =1.0"			
288	(10) IRC, Section R301.6, is deleted and replaced with the following: "R301.6 Utah			
289	Snow Loads. The snow loads specified in Table R301.2(5b) shall be used for the jurisdictions			
290	identified in that table. Otherwise, the ground snow load, Pg, to be used in the determination			
291	of design snow loads for buildings and other structures shall be determined by using the			
292	following formula: $Pg = (Po2 + S2(A-Ao)2)0.5$ for A greater than Ao, and $Pg = Po$ for A less			
293	by than or equal to Ao.			
294	WHERE:			
295	Pg = Ground snow load at a given elevation (psf);			
296	Po = Base ground snow load (psf) from Table No. R301.2(5a);			
297	S = Change in ground snow load with elevation ( $psf/100$ ft.) From Table No. R301.2(5a);			
298	A = Elevation above sea level at the site (ft./1,000);			
299	Ao = Base ground snow elevation from Table R301.2(5a) (ft./1,000).			
300	The building official may round the roof snow load to the nearest 5 psf. The ground snow			
301	load, Pg, may be adjusted by the building official when a licensed engineer or architect submits			
302	data substantiating the adjustments.			
303	Where the minimum roof live load in accordance with Table R301.6 is greater than the design			
304	roof snow load, such roof live load shall be used for design, however, it shall not be reduced to			

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a load lower than the design roof snow load. Drifting need not be considered for roof snowloads less than 20 psf."

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

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

310

(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).

316 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

318 adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within

319 any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder

320 treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point

321 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a

322 minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the

323 greatest winder tread depth at the 12-inch (305 mm) walk line shall not exceed the smallest by

324 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  $1 \frac{1}{4}$ 

327 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection

328 shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two

329 stories, including the nosing at the level of floors and landings. Beveling of nosing shall not

330 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

332	risers are permitted, provided that the opening between treads does not permit the passage of a
333	4-inch diameter (102 mm) sphere.
334	Exceptions.
335	1. A nosing is not required where the tread depth is a minimum of 10 inches (254 mm).
336	2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches
337	(762 mm) or less."
338	(15) IRC, Section R312.2, is deleted.
339	(16) IRC, Sections R313.1 through R313.2.1, are deleted and replaced with the
340	following: "R313.1 Design and installation. When installed, automatic residential fire
341	sprinkler systems for townhouses or one- and two-family dwellings shall be designed and
342	installed in accordance with Section P2904 or NFPA 13D."
343	(17) In IRC, Section 315.3, the following words are added to the first sentence after the
344	word "installed": "on each level of the dwelling unit and".
345	(18) In IRC, Section R315.5, a new exception, 3, is added as follows:
346	"3. Hard wiring of carbon monoxide alarms in existing areas shall not be required where the
347	alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing
348	the structure, unless there is an attic, crawl space or basement available which could provide
349	access for hard wiring, without the removal of interior finishes."
350	(19) A new IRC, Section R315.7, is added as follows: "R315.7 Interconnection.
351	Where more than one carbon monoxide alarm is required to be installed within an individual
352	dwelling unit in accordance with Section R315.1, the alarm devices shall be interconnected in
353	such a manner that the actuation of one alarm will activate all of the alarms in the individual
354	unit. Physical interconnection of smoke alarms shall not be required where listed wireless
355	alarms are installed and all alarms sound upon activation of one alarm.
356	Exception: Interconnection of carbon monoxide alarms in existing areas shall not be required
357	where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing
358	the structure, unless there is an attic, crawl space or basement available which could provide

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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
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."

374 (23) In IRC, Section R405.1, a new exception is added as follows: "Exception: When a
375 geotechnical report has been provided for the property, a drainage system is not required unless
376 the drainage system is required as a condition of the geotechnical report. <u>The geological report</u>
377 shall make a recommendation regarding a drainage system."