

## Attachment A - Tracking Consistency & Clarification 1/10/2020

Changes after Adoption 2018 Fire Code Amendment Log			Revised 1/10/2020
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1.	101.2.2	<b>101.2.2 Policies Explanatory materials.</b> A diamond (◆) in the margin indicates that a City of Phoenix policy explanatory material document has been created to clarify the application of this code, in accordance with Section 104.7 .1.	
	Reason: Consistent with amendments in prior codes.		
2.	104.10.2	<b>104.10.2 Forensic analysis.</b> The fire code official may require a forensic analysis of the cause of failure by an independent laboratory approved by the fire code official.	
	Reason: Allows for more extensive investigation after an incident.		
3.	105.6.36	<b>105.6.36 Outdoor assembly event.</b> An operational permit is required to conduct an outdoor assembly event where planned attendance exceeds 1,000 500 persons, or when 50 or more persons are in a confined area.	
	Reason: Consistent with amendments in prior codes.		
4.	105.6.51	<b>105.6.51 City of Phoenix permits.</b> The fire code official is authorized to issue operational permits for work as set forth in Sections 105.6.51.1 through 105.6.51.5.19.	
	Reason: These facilities operate in other occupancies.		
5.	105.6.51.2	<b>105.6.51.2 Ammunition.</b> An operating permit is required for manufacturing or reloading any amount of small arms ammunition for resale, or to manufacture or reload any amount of military, specialty or custom ammunition.  <b>Exception:</b> Storage in Group R-3 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and in accordance with Section 5606.	
	Reason: These facilities operate in other occupancies.		
6.	105.6.51.4	<b>105.6.51.4 Behavioral healthcare facility, Group I-1.</b> An operational permit is required to operate a behavioral healthcare facility.	
	Reason: These facilities operate in other occupancies.		
7.	105.6.51.5	<b>105.6.51.5 Carbon dioxide liquid beverage systems.</b> An operational permit is required to operate a carbon dioxide liquid beverage system.	
	Reason: These facilities operate in other occupancies.		
8.	105.6.51.8	<b>105.6.51.8 Developmentally disabled group care homes Group I-1.</b> An operational permit is required to operate, developmentally disabled group home.	
	Reason: These facilities operate in other occupancies.		
9.	105.6.51.9	<b>105.6.51.9 Educational facility.</b> An operational permit is required for public and private schools K through 12.	
	Reason: Restored. Rest of section renumbered accordingly.		
10.	105.6.51.10	<b>105.6.51.10 Fireworks, retail sales, indoors.</b> An operational permit is required to conduct retail sales of fireworks indoors.	
	Reason: Restored – remainder of section renumbered.		
11.	105.6.51.11	<b>105.6.51.11 Fireworks, retail sales, outdoor.</b> An operational permit is required to conduct retail sales of fireworks outdoors.  <del>Fireworks, special effects / theatrical performances. To use fireworks, pyrotechnic or special effect materials using CO<sub>2</sub>, LP Gas or other materials for theatrical performances before a proximate audience.</del>	
	Reason: Restored – remainder of section renumbered.		
12.	105.6.51.12	<b>105.6.51.12 Fireworks, wholesale sales.</b> An operational permit is required for wholesale sale of consumer fireworks.	

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	Reason: Restored – remainder of section renumbered.	
13.	105.6.51.17	105.6.51.17. Medical facilities. An operational permit is required to operate a medical facility.
	Reason: Restored.	
14.	105.6.51.18	105.6.51.18 Semiconductor facility. An operational permit is required to operate a semiconductor facility.
	Reason: Restored – remainder of section renumbered.	
15.	105.7.9	<b>105.7.9 Flammable and combustible liquids.</b> A construction permit is required: <ol style="list-style-type: none"> <li>1. To install, repair or modify a pipeline for the transportation of flammable or combustible liquids.</li> <li>2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced processed, transported, stored, dispensed or used.</li> <li>3. To install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank.</li> </ol> <b>Exceptions:</b> <ol style="list-style-type: none"> <li>1. To temporarily or permanently install a storage tank or aboveground storage tank or pressure vessel for Class I, II or III-A liquids with less than 125 gallons (473 L) outside a building, or 60 gallons (227 L) inside a building.</li> <li>2. To temporarily or permanently install a storage tank or aboveground storage tank or pressure vessel less than 1,000 gallons (3785 L) for Class III-B liquids.</li> <li>4. To slurry fill an underground tank.</li> <li>5. To neutralize the hazard and abandon an underground or above-ground tank</li> </ol>
	Reason: Slurry and abandon are operational activities, not new construction.	
16.	105.7.26	105.7.26 City of Phoenix required permits. The fire code official is authorized to issue construction permits for work as set forth in Sections 105.7.26.1 through 105.7.26.13.
	Reason: City of Phoenix only permit section renumbered for consistency throughout the code. Remainder of section renumbered.	
17.	105.7.26.9	105.7.26.9 Fire protection system removal permits. A removal permit allows the applicant to remove systems or equipment. The fire department shall be notified when any system is to be removed. <del>Replacement of a required system shall be within the same business day.</del> Removal permits shall only be issued to current qualified contractors.
	Reason: Provides tracking of installation locations.	
18.	105.7.26.10.2	105.7.26.10.2 Hydrant, temporary. A construction permit is required for the installation of a temporary hydrant and up to 500 feet (152 m) of fire line.
	Reason: Provides tracking of installation locations.	
19.	105.7.26.11	105.7.26.11 Lithium ion battery systems. To install or modify a lithium ion battery storage system used for facility standby power emergency power or uninterruptible power supplies as regulated by Section 1206.2.
	Reason: New permit to be issued in order to track installation location of these systems. Remainder of section renumbered.	
20.	106.10	106.10 Area assessment fees. Facilities that represent special hazards as determined by the fire code official shall be assessed an area assessment fee. Facilities more than 250,000 square feet (23 225 m <sup>2</sup> ), shall be assessed an additional fee calculated on the total area of

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		the site. The assessment fee shall be calculated in intervals of 250,000 square feet (23 225 m <sup>2</sup> ) in accordance with the fee schedule. For those facilities being assessed hazardous material fees area fees will be based on the fee group on accordance with Table 8106.3.
	Reason: Table number correction.	
21.	<b>Section 114</b>	<p style="text-align: center;"><b>SECTION 114</b> <b>CERTIFICATE OF INSURANCE</b></p> <p><b>114.1 General.</b> A valid certificate of insurance shall be filed with the <i>fire code official</i> when applying for a permit to conduct blasting and pyrotechnics.</p> <p><b>114.2 Certificate of insurance required.</b> The certificate shall be issued by an insurance company authorized to transact business in the State or Arizona or be named on the list of unauthorized insurers maintained by the Arizona Department of Insurance. The following information shall be identified:</p> <ol style="list-style-type: none"> <li>1. The contractor shall be named as the insured. If the insurance is provided by an individual, company or partnership other than the contractor, the contractor shall be named as an additional insured.</li> <li>2. "The City of Phoenix, a Municipal Corporation, its agents, employees and volunteers" shall be named as an additional insured and certificate holder.</li> <li>3. A minimum of \$1,000,000 general liability limits, including contractual liability policy, shall be provided for the following activities: <ol style="list-style-type: none"> <li>3.1. Storage or use of <i>explosive materials</i>.</li> <li>3.2. Storage or use of pyrotechnic displays.</li> <li>3.3. Use of open flames before a proximate audience.</li> </ol> </li> </ol> <p><b>114.3 Additional insurance.</b> Greater liability insurance amounts may be required when deemed necessary by the <i>fire code official</i>.</p>
	Reason: Restored.	
22.	<b>Section 115</b>	<b>SECTION <del>114</del> 115</b> <b>Fire Watch</b>
	Reason: Section moved and renumbered to accommodate restored Section 114.	
23.	<b>Definitions</b>	<b>OUTDOOR ASSEMBLY EVENT.</b> An outdoor gathering of persons for any purpose having a projected attendance of 500 or more persons or confining 50 or more persons by temporary installation of fencing.
	Reason: Section 114 Firewatch moved to 115 to restore the 114 Insurance requirements.	
24.	<b>315.4.14</b>	<b>315.4.14 Fire watch.</b> When required by the <i>fire code official</i> , a fire watch shall be provided in accordance with Section <del>114</del> 115.
	Reason: Section 114 Firewatch moved to 115 to restore the 114 Insurance requirements.	
25.	<b>315.7</b>	<b>315.7 Outdoor pallet storage.</b> Pallets stored outdoors shall comply with Sections 315.7 through 315.7.7.8. Pallets stored within a building shall be protected in accordance with Chapter 32. Pallets at pallet manufacturing and recycling facilities shall comply with Chapter 28.
	Reason: Provides clarity for consumers.	
26.	<b>403.12.1</b>	<b>403.12.1 Fire watch personnel.</b> Where, in the opinion of the <i>fire code official</i> , it is essential for public safety in a place of assembly or any other place where people congregate,

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		because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the owner, agent or lessee shall provide one or more fire watch personnel, as required and <i>approved</i> . Fire watch personnel shall comply with Sections 115, 403.12.1.1 and 403.12.2. <i>Such fire watch personnel shall not be required or permitted, while on duty, to perform any other duties than those specified herein, in accordance with Section 114 115.</i>
	<b>Reason:</b> Section 114 Firewatch moved to 115 to restore the 114 Insurance requirements.	
27.	<b>501.2</b>	<b>501.2 Permits.</b> A permit shall be required as set forth in Sections 105.6 and 105.7.
	<b>Reason:</b> Restores previous amendment.	
28.	<b>503.2.8.1</b>	<b>503.2.8.1 Curbs.</b> A rolled curb meeting Maricopa Association of Governments standards or equivalent shall be installed at the entrances to fire apparatus access roads.  <del>503.2.9 Curbs. A rolled curb meeting Maricopa Association of Governments standards or equivalent shall be installed at the entrances to fire apparatus access roads.</del>
	<b>Reason:</b> Restores previous amendment.	
29.	<b>503.3.2.10</b>	<b>503.2.10 Alternative surface.</b> <del>Fire apparatus access roads not conforming to a Maricopa Association of Governments standard shall be in accordance with this section, Maricopa Association of Governments standards.</del> Alternative surface fire lanes shall meet the requirements of fire apparatus access roads and this section.
	<b>Reason:</b> Restores previous amendment.	
30.	<b>503.3.2.10</b>	<b>503.2.9 Maintenance.</b> Fire apparatus access roads shall be maintained as approved, by the owner at all times.
	<b>Reason:</b> Restores previous amendment.	
31.	<b>503.2.10.1</b>	<b>503.2.10.1 Report.</b> Alternative surface fire apparatus access roads shall be designed by an engineer registered by the State of Arizona. The engineer shall prepare a sealed design report for submittal to and approval by the fire department. Plans shall be sealed and submitted with the report (see Section 501.3).
	<b>Reason:</b>	
32.	<b>503.3.2.10.2</b>	<b>503.2.10.2 Stabilization.</b> Stabilization of the fire apparatus access road surface shall be addressed in the alternative surface fire apparatus access road report and may be accomplished by curbing.  At a minimum, the surface of fire apparatus access roads shall be as follows:  1. Minimum 6 inches (152 mm) of native soil compacted to 95 percent of standard proctor density (ASTM D 698), and  2. Minimum 4 inches (102 mm) of aggregate base compacted to 100 percent of standard proctor density (ASTM D 698).  The surface of fire apparatus access roads may differ from the above requirements if it is shown that the surface provided is sufficient to support an imposed live load of 70,000 pounds (31 752 kg) with a maximum axle load of 28,000 pounds (12 701 kg). An engineer

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		registered by the State of Arizona shall prepare and seal the soil compaction report. The report shall be available for review by the <i>fire code official</i> .
	<b>Reason:</b>	Restores previous amendment.
33.	<b>503.3.2.10.3</b>	<b>503.2.10.3 Compaction.</b> Minimum 95 percent compaction of subgrade soil is required.
	<b>Reason:</b>	Restores previous amendment.
34.	<b>503.3.2.10.4</b>	<b>503.2.10.4 Curbs.</b> A rolled curb shall be installed at the entrances to fire apparatus access roads. See Chapter 80, Referenced Standards, for Maricopa Association of Government Standards with City of Phoenix supplements.
	<b>Reason:</b>	Restores previous amendment.
35.	<b>503.3.2.10.5</b>	<b>503.2.10.5 Marking.</b> The curb shall be painted red or red reflectors shall be installed to define the width of alternative surface fire apparatus access roads. The reflectors shall be imbedded into bordering curbing at intervals not exceeding 25 feet (4572 mm) (see Appendix D).
	<b>Reason:</b>	Restores previous amendment.
36.	<b>503.3.2.10.6</b>	<b>503.2.10.6 Special inspections.</b> An Arizona-registered professional engineer shall conduct a special inspection prior to final approvals being issued for the alternative surface fire apparatus access road. The report shall be submitted for review by the <i>fire code official</i> .
	<b>Reason:</b>	Restores previous amendment.
37.	<b>503.3.2.10.7</b>	<b>503.2.10.7 Special inspection documentation.</b> The special inspection documentation shall include, but not be limited to, the following: <ol style="list-style-type: none"> <li>1. Subgrade soil compaction report.</li> <li>2. Base material quality, thickness and compaction.</li> <li>3. Concrete depth and compressive strength, when applicable.</li> <li>4. An evaluation of the installation in accordance with design drawings and manufacturer specifications.</li> <li>5. Crown and drainage requirements.</li> <li>6. Stabilization.</li> </ol>
	<b>Reason:</b>	Restores previous amendment.
38.	<b>503.3.2.10.8</b>	<b>503.2.10.8 Engineering report.</b> An engineer registered by the State of Arizona shall prepare and seal a soil compaction report, ensuring the road will support the imposed live load, drainage, stabilization and curbing. The report shall be submitted for review by the <i>fire code official</i> .
	<b>Reason:</b>	Restores previous amendment.
39.	<b>503.3.2 #7</b>	<b>503.3.2 Fire apparatus access road signs.</b> <ol style="list-style-type: none"> <li>7. Fire apparatus access roads shall be identified by curbs painted red on both the top and face along the entire length of the fire apparatus access road. Where no curb exists, or a rolled curb is installed, a 6-inch (152 mm) wide red stripe applied the full length of the fire apparatus access road.</li> </ol>
	<b>Reason:</b>	Restores previous amendment.
40.	<b>503.3.3</b>	<b>503.3.3 Stenciling.</b> The <i>fire code official</i> is authorized to require stenciling or other permanent markings to improve the identification of fire apparatus access roads. Where required, the stenciling shall state "FIRE LANE – NO PARKING." Lettering shall be white on

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		a red painted curb and shall be a minimum of 3 inches (76 mm) high with a 1/2- inch (13 mm) brush stroke.  <b>Exception:</b> A fire apparatus access road that is greater than 36 feet in width shall not be required to have signs or red painted curbs on either side of the fire apparatus access road.
	<b>Reason:</b> Restores previous amendment	
41.	<b>503.3.3.4</b>	<b>503.3.4 Marking not required.</b> A fire apparatus access road that is greater than 36 (10 973 mm) in width shall not be required to have signs and painted curbs on either side of the fire apparatus access road.
	<b>Reason:</b> Restores previous amendment	
42.	<b>503.3.3.5</b>	<b>503.3.5 Signs required on both sides of a road.</b> When a fire apparatus access road is less than 28 feet (8534 mm) in width, fire lane signs and red painted curbs are required on both sides of the access road.  <i>Fire apparatus access roads serving only Group R-3 occupancies are required to have signs and red painted curbs installed on both sides of the road when they are 20 feet (6096 mm) or less in width.</i>
	<b>Reason:</b> Restores previous amendment	
43.	<b>503.3.3.6</b>	<b>503.3.6 Signs required on one side of road.</b> When a fire apparatus access road is 28 feet (8534 mm) or greater and less than or equal to 36 feet (10 973 mm) in width, fire lane signs and red painted curbs are required to be installed on a minimum of one side of the access road.  <i>Fire apparatus access roads serving only Group R-3 occupancies require signs and red painted curbs on a minimum of one side of the fire apparatus access road when it is greater than or equal to 20 feet (6096 mm) and less than or equal to 28 feet (8534 mm) in width.</i>
	<b>Reason:</b> Restores previous amendment	
44.	<b>503.6</b>	<b>503.6 Security gates.</b> The installation of security gates across a fire apparatus access road shall be approved by the fire code official, and in accordance with Section 512. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200. Fire apparatus access gates shall be designed and installed such that they do not obstruct the ingress or egress of emergency vehicles.
	<b>Reason:</b> Ensures compliance with security gates.	
45.	<b>605.8.2.2</b>	<b>605.8.2.2 Supervisory Alarm.</b> A supervisory alarm shall activate visual and audible device in the area of detection and in the immediate vicinity of the area of detection at 10% of the IDLH of the refrigerant. The detector shall transmit the appropriate signals to an approved location.
	<b>Reason:</b> Omitted from original 2018 amendment.	
46.	<b>609.3</b>	<b>609.3 Cryogenic Tanks and Piping.</b> Cryogenic tanks and piping associated with Hyperbaric Facilities shall also comply with Chapter 50 and 55.



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	<b>Reason:</b> Omitted from original 2018 amendment.	
47.	<b>919.1</b>	<p><b>SECTION 919</b></p> <p><b>EXISTING-HIGH-RISE SMOKE REMOVAL SYSTEMS</b></p> <p>◆ <b>919.1 Smoke removal.</b> To facilitate smoke removal <del>in buildings built prior to engineered smoke management requirements.</del> There shall be capability for post-fire salvage and overhaul operations. Buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:</p> <ol style="list-style-type: none"> <li>1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50-foot (15 240 mm) intervals. The area of operable windows or panels shall be not less than 40 square feet (3.7 m<sup>2</sup>) per 50 linear feet (15 240mm) of perimeter.</li> </ol> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li><u>1.1</u> In Group R-1 occupancies, each sleeping unit or suite having an exterior wall shall be permitted to be provided with 2 square feet (0.19 m<sup>2</sup>) of venting area in lieu of the area specified in Item 1.</li> <li><u>1.2</u> <del>Windows shall be permitted to be fixed provided that glazing can be cleared by fire fighters.</del></li> <li>2. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.</li> <li>3. Any other design that will produce equivalent results <i>approved by the fire code official</i>, through the appeals process.</li> </ol>
	<b>Reason:</b> Chapter 9 is for new construction. Items 1.1 & 1.2 renumbered in ICC fashion. Fire Operations will not break glass for smoke removal. Not an option in Phoenix.	
48.	<b>1107.1</b>	<p><b>SECTION 1107</b></p> <p><b>EXISTING HIGH-RISE SMOKE REMOVAL SYSTEMS</b></p> <p>◆ <b>1107.1 Smoke removal.</b> To facilitate smoke removal in buildings built prior to engineered smoke management requirements, there shall be capability for post-fire salvage and overhaul operations. Buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:</p> <ol style="list-style-type: none"> <li>1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50-foot (15 240 mm) intervals. The area of operable windows or panels shall be not less than 40 square feet (3.7 m<sup>2</sup>) per 50 linear feet (15 240mm) of perimeter.</li> </ol> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. In Group R-1 occupancies, each sleeping unit or suite having an exterior wall shall be permitted to be provided with 2 square feet (0.19 m<sup>2</sup>) of venting area in lieu of the area specified in Item 1.</li> <li><u>1.2</u> <del>Windows shall be permitted to be fixed provided that glazing can be cleared by fire fighters.</del></li> <li>2. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to</li> </ol>

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		the outside without recirculation to other portions of the building. 3. Any other design that will produce equivalent results approved by the fire code official, through the appeals process.
	Reason: Copied from Chapter 9 to ensure requirement for existing buildings.	
49.	1103.5.6	<b>1103.5.6 Sprinkler systems—partially sprinklered buildings.</b> When existing nonsprinklered buildings of mixed occupancy are required to install sprinklers based on a change of occupancy classification, sprinklers shall be installed throughout the fire area that includes the new occupancy. The fire-resistance rating of fire barriers or horizontal assemblies separating sprinklered and nonsprinklered fire areas shall be a minimum of 2 hours. Fire department connection signage shall be in accordance with Section 912. <b>Exception:</b> Group R-1, R-2, R-4 occupancies and multistory buildings shall be sprinklered throughout regardless of separations.
	Reason: Provides additional clarity to the rules of partially sprinklered buildings.	
50.	1201.1	<b>1201.1 Scope.</b> The provisions of this chapter shall apply to the installation, operation and maintenance of energy systems used for generating or storing energy. <del>It shall not apply to equipment associated with the generation, control, transformation, transmission, or distribution of energy installations that is under the exclusive control of an electric utility or lawfully designated agency.</del>
	Reason: Ensures permits and compliance with specific code requirements.	
51.	1203.1.1	<b>1203.1.1 Stationary generators.</b> Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200. Associated flammable or combustible liquid tanks shall also comply with Chapters 50 and 57.
	Reason: Ensures permits and compliance with specific code requirements.	
52.	1204.1.1	<b>1204.1.1 Permits.</b> Permits shall be obtained for solar photovoltaic systems in accordance with Section 105.7.21 <b>Exception:</b> Solar photovoltaic systems with less than 3 kW alternating current nameplate rating.
	Reason: Provides for tracking of system installations.	
53.	1204.1.2	<b>1204.1.2 Marking.</b> Marking is required on interior and exterior direct-current (DC) conduit, enclosures, race- ways, cable assemblies, junction boxes, combiner boxes and disconnects.
	Reason: Provides clarification. This is base code language is from 2012 Chapter 6.	
54.	1204.1.2.1	<b>1204.1.2.1 Materials.</b> The materials used for marking shall be reflective, weather resistant and suitable for the environment. Marking as required in Sections 1204.1.2 through 1204.1.6 shall have all letters capitalized with a minimum height of 3/8 inch (9.5 mm) white on red background.
	Reason: Provides clarification. This is base code language is from 2012 Chapter 6.	
55.	1204.1.2.2	<b>1204.1.2.2 Marking content.</b> The marking shall contain the words “WARNING: PHOTOVOLTAIC POWER SOURCE.”
	Reason: Provides clarification. This is base code language is from 2012 Chapter 6.	
56.	1204.1.2.3	<b>1204.1.2.3 Main service disconnect.</b> The marking shall be placed adjacent to the main service disconnect in a location clearly visible from the location where the disconnect is operated.
	Reason: Provides clarification. This is base code language is from 2012 Chapter 6.	



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57.	<b>1204.1.3</b>	<p><b>1204.1.3 Location of marking.</b> Marking shall be placed on interior and exterior DC conduit, raceways, enclosures and cable assemblies every 10 feet (3048 mm), within 1 foot (305 mm) of turns or bends and within 1 foot (305 mm) above and below penetrations of roof/ceiling assemblies, walls or barriers.</p> <p><b>Reason:</b> Provides clarification. This is base code language is from 2012 Chapter 6.</p>
58.	<b>1204.2</b>	<p><b>1204.2 Access and pathways.</b> Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 1204.2.1 through 1204.3.3. <b>Pathways shall be over areas capable of supporting fire fighters accessing the roof.</b> Pathways shall be located in areas with minimal obstructions, such as vent pipes, conduit or mechanical equipment.</p> <p>Residential structures shall be designed so that each photovoltaic array is no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in either axis.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Detached, nonhabitable Group U structures including, but not limited to, <b>detached garages serving Group R-3 buildings</b>, parking shade structures, carports, solar trellises and similar structures.</li> <li>2. <del>Roof access, pathways and spacing requirements need not be provided where the fire code official has determined that rooftop operations will not be employed.</del></li> </ol> <p><b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.</p>
59.	<b>1204.2.1</b>	<p><b>Solar photovoltaic systems for Group R-3 buildings.</b> Solar photovoltaic systems for Group R-3 buildings shall comply with Sections 1204.2.1.1 through 1204.2.1.3.5.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. <del>These requirements shall not apply to structures designed and constructed in accordance with the International Residential Code.</del></li> <li>2. <del>These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal or less.</del></li> </ol>
60.	<b>1204.2.1.1</b>	<p><del><b>1204.2.1.1 Pathways to ridge.</b> Not fewer than two 36 inch wide (914 mm) pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. Not fewer than one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, not fewer than one 36 inch wide (914 mm) pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane or straddling the same and adjacent roof planes.</del></p> <p><b>1204.2.1.1 Roof access points.</b> Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.</p> <p><b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.</p>
61.	<b>1204.2.1.2</b>	<p><del><b>1204.2.1.2 Setbacks at ridge.</b> For photovoltaic arrays occupying 33 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, a setback of not less than 36 inches (457 mm) wide is required on both sides of a horizontal ridge.</del></p>

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		<b>1204.2.1.2 Residential buildings with hip roof layouts.</b> Panels or modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels or modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of firefighters accessing the roof.
	<b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.	
62.	<b>1204.2.1.3</b>	<del><b>1204.2.1.3 Alternative setbacks at ridge.</b> Where an automatic sprinkler system is installed within the dwelling in accordance with Section 903.3.1.3, setbacks at the ridge shall conform to one of the following:</del> <del>1. For photovoltaic arrays occupying 66 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge.</del> <del>2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.</del> <b>1204.2.1.3 Residential buildings with a single ridge.</b> Panels or modules installed on residential buildings with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels or modules are located.
	<b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.	
63.	<b>1204.2.1.4</b>	<b>1204.2.1.4 Residential buildings with roof hips and valleys.</b> Panels/modules installed on residential buildings with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.
	<b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.	
64.	<b>1204.2.1.5</b>	<b>1204.2.1.5 Residential building smoke ventilation.</b> Panels/modules installed on residential buildings shall be located no higher than 3 feet (914 mm) below the ridge in order to allow for fire department smoke ventilation operations.
	<b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.	
65.	<b>1204.2.2</b>	<b>1204.2.2 Emergency escape and rescue openings.</b> Panel and modules installed on Group R-3 buildings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway of not less than 36 inches (914 mm) wide shall be provided to the emergency escape and rescue opening.
	<b>Reason:</b> Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.	
66.	<b>1204.3.2</b>	<b>1204.3.2 Interior pathways.</b> Interior pathways shall be provided between array sections to meet the following requirements: 1. Pathways shall be provided at intervals not greater than 150 feet (45 720 mm) throughout the length and width of the roof. 2. A pathway not less than 4 feet (1219 mm) wide in a straight line to roof standpipes or ventilation hatches. 3. A pathway not less than 4 feet (1219 mm) wide around roof access hatches, with not fewer than one such pathway to a parapet or roof edge.

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		<p>4. The pathway shall be over areas capable of supporting the live load of firefighters accessing the roof.</p> <p>5. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of fire fighters accessing the roof.</p>
	Reason: Supports operations and provides clarification. This is code language is from 2012 Chapter 6.	
67.	<b>1204.3.3</b>	<p><b>1204.3.3 Smoke ventilation.</b> The solar installation shall be designed to meet the following requirements:</p> <ol style="list-style-type: none"> <li>Where nongravity-operated smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide shall be provided bordering all sides.</li> <li>Smoke ventilation options between array sections shall be one of the following: <ol style="list-style-type: none"> <li>A pathway not less than 8 feet (2438 mm) wide.</li> <li>Where gravity-operated dropout smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide on not fewer than one side.</li> <li>A pathway not less than 4 feet (1219 mm) wide bordering 4-foot by 8-foot (1219 mm by 2438 mm) venting cutouts every 20 feet (6096 mm) on alternating sides of the pathway.</li> </ol> </li> <li>Arrays shall be no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.</li> </ol>
	Reason: Supports operations and provides clarification. This is code language is from 2012 Chapter 6.	
68.	<b>1206.1</b>	<p><b>1206.1 Scope.</b> The provisions in this section are applicable to energy storage systems designed to provide electrical power to a building or facility. These systems are used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities. Energy storage system in Group R-3 and R-4 occupancies shall be in accordance with 1206.2.1 and 1206.4. Approved signage is required for all installations.</p> <p><del>Exception: Electrical energy storage systems with a capacity of 3 kWh or less.</del></p> <p><del>1206.1.1 Permits. Permits shall be obtained for the construction and operation of stationary storage battery systems with a capacity of more than 3 kWh in accordance with Section 105.7.2.</del></p> <p><del>Exception: Operating permits are not required for Group R-3 and R-4 occupancies.</del></p>
	Reason: Clarifies requirements.	
69.	<b>1206.2</b>	<p><b>Stationary storage battery systems.</b> Stationary storage battery systems having capacities exceeding the values shown in Table 1206.2 shall comply with Sections 1206.2.1 through 1206.2.12.13.6, as applicable. Approved signage is required for all installations.</p>
	Reason: Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.	
70.	<b>1206.2.1</b>	<p><b>1206.2.1 Permits.</b> Permits shall be obtained for the construction and operation of stationary storage battery systems with a capacity of 3 kWh or more, in accordance with Section 105.7.2.</p>
	Reason: Clarifies requirements.	
71.	<b>1206.2.3</b>	<p><b>1206.2.3 Hazard mitigation analysis.</b> A failure modes and effects analysis (FMEA) or other approved hazard mitigation analysis shall be provided in accordance with Section 104.7.2 under any of the following conditions:</p>

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		<ol style="list-style-type: none"> <li>1. Battery technologies not specifically identified in Table 1206.2 are provided.</li> <li>2. More than one stationary storage battery technology is provided in a room or indoor area where there is a potential for adverse interaction between technologies.</li> <li>3. Where allowed as a basis for increasing maximum allowable quantities in accordance with Section 1206.2.9.</li> <li>4. When required by the <i>fire code official</i>.</li> </ol>
	<b>Reason:</b> Clarifies requirements.	
72.	<b>1206.2.3.1</b>	<b>1206.2.3.1 Fault condition.</b> The hazard mitigation analysis shall evaluate the consequences of the following failure modes, and others deemed necessary by the <i>fire code official</i> . Only single-failure modes shall be considered. <ol style="list-style-type: none"> <li>1. Thermal runaway condition in a single-battery storage rack, module or array.</li> <li>2. Failure of any energy management system.</li> <li>3. Failure of any required ventilation system.</li> <li>4. Voltage surges on the primary electric supply.</li> <li>5. Short circuits on the load side of the stationary battery storage system.</li> <li>6. Failure of the smoke detection, fire-extinguishing or gas detection system.</li> <li>7. Spill neutralization not being provided or failure of the secondary containment system.</li> <li>8. Failure of temperature control.</li> </ol>
73.	<b>1206.2.3.6</b>	<b>1206.2.3.6 Forensic analysis.</b> The <i>fire code official</i> may also require a forensic analysis of the cause of failure by an independent laboratory approved by the <i>fire code official</i> in accordance with Section 104.10.2.
	<b>Reason:</b> Allows for more extensive investigation after an incident.	
74.	<b>1206.2.8.3</b>	<b>1206.2.8.3 Stationary battery arrays.</b> Storage batteries, prepackaged stationary storage battery systems and preengineered stationary storage battery systems shall be segregated into stationary battery arrays not exceeding 50 kWh (180 megajoules) each. Each stationary battery array shall be spaced not less than 3 feet (914 mm) from other stationary battery arrays and from walls in the storage room or area. The storage arrangements shall comply with Chapter 10. <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Lead acid and nickel cadmium storage battery arrays.</li> <li>2. Listed preengineered stationary storage battery systems and prepackaged stationary storage battery systems shall not exceed 250 kWh (900 megajoules) each, where approved by the <i>fire code official</i>.</li> <li>3. The <i>fire code official</i> is authorized to approve listed, preengineered and prepackaged battery arrays with larger capacities or smaller battery array spacing if large-scale fire and fault condition testing conducted or witnessed and reported by an approved testing laboratory is provided showing that a fire involving one array will not propagate to an adjacent array, and be contained within the room for a duration equal to the fire-resistance rating of the room separation specified in Table 509 of the <i>International Building Code</i>.</li> </ol>
	<b>Reason:</b> Ensures large systems are approved per the code.	

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75.	<b>1206.2.8.7.1</b>	<p><b>1206.2.8.7.1 Separation.</b> Stationary storage battery systems located outdoors shall be separated by a minimum <del>5 feet (1524 mm)</del> 10 feet (3048 mm) from the following:</p> <ol style="list-style-type: none"> <li>1. Lot lines.</li> <li>2. Public ways.</li> <li>3. Buildings.</li> <li>4. Stored combustible materials.</li> <li>5. Hazardous materials.</li> <li>6. High-piled stock.</li> <li>7. Other exposure hazards.</li> </ol> <p><b>Exception:</b> The <i>fire code official</i> is authorized to approve smaller separation distances if largescale fire and fault condition testing conducted or witnessed and reported by an approved testing laboratory is provided showing that a fire involving the system will not adversely impact occupant egress from adjacent buildings, or adversely impact adjacent stored materials or structures.</p>
	<b>Reason:</b> Provides a larger safety separation, at the request of the FSAB.	
76.	<b>1206.2.11.3</b>	<p><b>1206.2.11.3 Exhaust ventilation.</b> Where required by <del>Section 1206.2.3 or 1206.2.12</del> Table 1206.2.10, ventilation of rooms containing stationary storage battery systems shall be provided in accordance with the <i>International Mechanical Code</i> and one of the following:</p>
	<b>Reason:</b> Allows for small systems to be installed.	
77.	<b>1206.4</b>	<p><b>1206.4 Energy storage system in Group R-3 and R-4 occupancies.</b> Energy storage systems in Group R-3 and R-4 occupancies shall be installed and maintained in accordance with this section. The temporary use of an owner or occupant's electric powered vehicle as an energy storage system shall be in accordance with Section 1206.4.</p> <p><b>Exception:</b> Energy storage systems in Group R-3 and R-4 occupancies with a capacity of 3 kWh or less.</p>
	<b>Reason:</b> Allows for small systems to be installed.	
78.	<b>1206.4.3</b>	<p><b>1206.4.3 Location.</b> Energy storage system shall only be installed in the following locations:</p> <ol style="list-style-type: none"> <li>1. Detached garages and detached accessory structures.</li> <li>2. Attached garages separated from the dwelling unit living space and sleeping units in accordance with Section 406.3.2 of the <i>International Building Code</i>.</li> <li>3. Outdoors on exterior walls in accordance with 1206.4.3.1</li> <li>4. <del>Utility closets and storage or utility spaces within dwelling units and sleeping units.</del> Other locations with Fire Marshal approval.</li> </ol>
	<b>Reason:</b> Not allowed in closets.	
79.	<b>1206.4.3.1</b>	<p><b>1206.4.3.1 Exterior wall and outdoor installations.</b> Energy storage system shall be permitted to be installed outdoors on exterior walls of buildings or on the ground when all of the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. The maximum energy capacity of individual energy storage system units shall not exceed 20 kWh.</li> <li>2. <del>The energy storage system shall comply with applicable requirements in Sections 1206.</del> The installation is in accordance with Zoning setback requirements.</li> <li>3. The energy storage system shall be installed in accordance with the manufacturer's instructions and their listing.</li> <li>4. Individual energy storage system units shall be separated from each other by not less than 3 feet (914 mm).</li> </ol>

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		5. The energy storage system shall be separated from doors, windows, operable openings into buildings, or HVAC inlets by at least 5 feet (1524 mm). <b>Exception:</b> Where approved by the <i>fire code official</i> , smaller separation distances in items 4 and 5 may be permitted based on large scale fire testing
	<b>Reason:</b> Installations must be in accordance with Fire and Zoning ordinances.	
80.	<b>1206.4.4</b>	<b>1206.4.4 Energy ratings.</b> Individual energy storage system units shall have a maximum rating of 20 kwh. The aggregate rating structure shall not exceed: <del>1. 40 kWh within utility closets and storage or utility spaces.</del> 1. 80 kWh in attached or detached garages and detached accessory structures. 2. 80 kWh on exterior walls. 3. 80 kWh outdoors on the ground.
	<b>Reason:</b> Energy storage systems are not allowed in closets.	
81.	<b>2001.1</b>	<b>2001.1 Scope.</b> Airports, heliports, helistops and aircraft hangars shall be in accordance with this chapter, <b>and the most current version of other nationally recognized standards.</b>
	<b>Reason:</b> Ensures the Fire Code does not hinder other FAA compliance requirements.	
82.	<b>2201.2</b>	<b>2201.2 Permits.</b> Permits shall be required for combustible dust-producing operations as set forth in Section 105.6 and <b>105.7.</b>
	<b>Reason:</b> Construction permits are now required.	
83.	<b>2307.2.4</b>	<del><b>2307.2.4 Breakaway devices.</b> Breakaway devices shall comply with ANSI/IAS NGV 4.4, Breakaway Devices for Natural Gas Dispensing Hoses and Systems.</del> A breakaway device shall be installed at every dispensing point. A breakaway device shall be arranged to separate using a force not greater than 150 lb (68 kg) when applied in any direction that the vehicle would move. A listed emergency breakaway device shall be installed and shall comply with NFPA 58 and UL 567, Standard for Emergency Breakaway Fittings, Swivel Connectors, and Pipe-Connection Fittings for Petroleum Products and LP-Gas, and be designed to retain liquid on both sides of the breakaway point, or other devices affording equivalent protection approved by the <i>fire code official</i> .
	<b>Reason:</b> Adds details for clarity.	
84.	<b>2807.4</b>	<b>2807.4 Material-handling equipment.</b> Approved material-handling equipment shall be readily available by contract to aid in the event of emergency for moving wood chips and hogged material. Equipment available shall include: 1. Equipment to move stored material during a fire 2. Water trucks 3. Water pumps if using pond for any piece of water source
	<b>Reason:</b> Restores previous amendment ensuring proper equipment is readily available.	
85.	<b>2807.6.3</b>	<b>2807.6.3 Push-out or clear area.</b> Approved push-out or clear areas shall be provided for pile storage. Any pile in place exceeding thirty (30) days and when piles are over 100 cubic yards (76.5 m <sup>3</sup> ) in size shall have a push out area. The intent is to provide areas to spread piles and move unburned material away from a pile in the event of fire or hotspot within the pile. Push-out/clear areas shall be located not more than 250 feet (76 200 mm) from the pile and shall be not located within 20 feet (6096 mm) of any building, or other combustibles. The push-out/clear area shall be sized to hold no less than a quarter of the



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		size of the single largest pile it serves at a maximum depth of 3 feet (914 mm). Water shall be immediately available to aid in cooling.
		<b>Reason:</b> Restores previous amendment ensuring enough space is provided to push burning piles around to put out fire.
86.	<b>2810.2.1</b>	<del>2808.2.1 Delivery &amp; tipping Area. Feedstock and raw materials shall be placed into designated tipping areas or separated piles upon delivery and shall comply with all storage requirements for compost and mulch.</del>
		<b>Reason:</b> Put into this section in error.
87.	<b>2810.1</b>	<b>2810.1 General.</b> The outside storage of wood pallets and wood composite pallets on the same site as a pallet manufacturing or recycling facility shall comply with Sections 2810.2 through 2810.16. Pallets stored within a building shall be protected in accordance with Chapter 32.
		<b>Reason:</b> Provides clarity if compliance with code.
88.	<b>2810.1.1</b>	<b>2810.1.1 Pallet types.</b> Pallets shall be all wood, with slatted or solid top or bottom, with metal fasteners, or shall be plastic or composite pallets, listed and labeled in accordance with UL 2335 or FM 4996. Plastic pallets shall be both solid and gridded deck, independent of the pallet manufacturing process, type of resin used in fabrication or geometry of the pallet.
		<b>Reason:</b> Defines types of pallets governed by this section of code.
89.	<b>2810.8.1</b>	<b>2810.8.1 Pallet pile stability and size.</b> Pallet stacks shall be arranged to form stable piles.
		<b>Reason:</b> Restores previous amendment.
90.	<b>2810.9</b>	<b>2810.9 Size of piles.</b> Piles shall not exceed 150,000 cubic feet (4248 m3) in volume.
		<b>Reason:</b> Restores previous amendment.
91.	<b>2810.10</b>	<b>2810.10 Aisles.</b> Aisles shall be a minimum of 20 feet (6096 mm) wide and shall be maintained clear and unobstructed at all times.
		<b>Reason:</b> Restores previous amendment.
92.	<b>2810.11</b>	<b>2810.11 Dead-ends.</b> No dead-end aisles shall be allowed within the facility.
		<b>Reason:</b> Restores previous amendment.
93.	<b>2810.12</b>	<b>2810.12 Fire apparatus access roads.</b> Fire apparatus access roads in accordance with Section 503 shall be located so that a maximum grid system unit of 50 feet by 150 feet (15 240 mm by 45 720 mm) is established.
		<b>Reason:</b> Restores previous amendment.
94.	<b>2810.13</b>	<b>2810.13 Prohibited locations.</b> Pallets shall not be stored underneath high-voltage transmission lines, elevated roadways.
		<b>Reason:</b> Restores previous amendment. Remainder of section renumbered accordingly.
95.	<b>3301.3</b>	<b>3301.3 Permits.</b> Permits shall be required as set forth in Section 105.6 through 105.7.
		<b>Reason:</b> Ensures piles are started and maintained in compliance with the code.
96.	<b>3401.3</b>	<b>3401.3 Site plans.</b> At the time of permit application for storing tires outdoors, a site plan shall be submitted to the fire code official identifying the location and dimensions of tire storage areas, tire pile dimensions and height, distance from buildings and property lines, width and location of aisles, and fire apparatus access roads. See Section 105.4.
		<b>Reason:</b> Ensures piles are started and maintained in compliance with the code.

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97.	<b>3405.1</b>	<p><b>3405.1 Individual piles.</b> Tire storage shall be restricted to individual piles not exceeding 5,000 square feet (464.5 m<sup>2</sup>) of continuous area. Piles <del>shall not exceed 50,000 cubic feet (1416 m<sup>3</sup>) in volume or 10 feet (3048 mm) in height.</del></p> <p>Piles 2,501—4,999 square feet (232 m<sup>2</sup>—464.5 m<sup>2</sup>) shall comply with Section 315.4. Tires shall be placed on solid, level ground.</p> <p><b>Reason:</b> Not needed after amendment</p>
98.	<b>3405.10</b>	<p><del><b>3405.10 Barriers.</b> When the number of tires stored exceeds 25,000 cubic feet, the storage area shall be surrounded by suitable barriers capable of containing liquid products of combustion resulting from a fire.</del></p> <p><b>Reason:</b> Not enforceable.</p>
99.	<b>3405.11</b>	<p><del><b>3405.11 Drainage.</b> Means shall be provided that will prevent the drainage of liquid products of combustion from posing a threat to health or safety or the environment.</del></p> <p><b>Reason:</b> Not enforceable.</p>
100.	<b>3501.2</b>	<p><b>3501.2 Permits.</b> Permits shall be required as set forth in Section 105.6.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Work conducted at one- and two-family dwellings.</li> <li>2. A hot work program shall not be required when a business has no more than two employees, who conduct welding, cutting, use open torches or other hot work operations.</li> </ol> <p><b>Reason:</b> Identifies exceptions to permit requirement.</p>
101.	<b>3501.2.1</b>	<p><b>3501.2.1 When permits are not required.</b> The person conducting hot work operations shall be responsible for ensuring that such operations are conducted in accordance with the safety requirements of this chapter regardless of whether permits are or are not required.</p> <p><b>Reason:</b> Identifies exceptions to permit requirement.</p>
102.	<b>5003.2.2.1</b>	<p><b>5003.2.2.1 Design and construction.</b> Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:</p> <ol style="list-style-type: none"> <li>8. Where gases or liquids having a hazard ranking of:               <ul style="list-style-type: none"> <li>Health Class 3 or 4</li> <li>Flammability Class 4</li> <li>Reactivity Class 3 or 4</li> <li>Instability Class 3 or 4</li> </ul> </li> </ol> <p>in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig) (103 kPa), an approved means of leak detection and emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Piping for inlet connections designed to prevent backflow.</li> <li>2. Piping for pressure relief devices.</li> </ol> <p><b>Reason:</b> #8 restored from previous amendment.</p>
103.	<b>5004.7</b>	<p><b>5004.7 Standby or emergency power.</b> Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems</p>

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		are required, such systems shall be provided with an emergency or standby power in accordance with Section 1203. In buildings or rooms storing highly toxic or toxic gases, refrigerated storage or organic peroxides with a self-accelerating decomposition temperature of 122°F or less, or Group H-5 occupancies shall be provided with a standby power system in accordance with the National Electrical Code and Section 604. The fire code official is authorized to require standby power as a result of a formal process hazard analysis.
	<b>Reason:</b> Restores previous amendment. Toxic gases are not otherwise addressed.	
104.	<b>5005.1.5</b>	<b>5005.1.5 Standby or emergency power.</b> Where mechanical ventilation, treatment systems, temperature control, manual alarm, detection or other electrically operated systems are required by this code, such systems shall be provided with an emergency or standby power system in accordance with Section 1203. In buildings or rooms storing or using highly toxic or toxic gases, using highly toxic liquids in an open system or Group H-5 occupancies shall be provided with standby power system in accordance with the National Electrical Code Section 604.
	<b>Reason:</b> Reflects code requirement found in National Toxic Gas Code.	
105.	<b>5005.1.12</b>	<b>5005.1.12 Emergency isolation.</b> Where gases or liquids having a hazard ranking of Health Class 3 or 4, Flammability Class 4, Reactivity Class 3 or 4 or Instability Class 3 or 4 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig) (103 kPa), an approved means of leak detection and emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.
	<b>Reason:</b> Completes all hazard classes of extreme reactivity.	
106.	<b>5301.2</b>	<b>5301.2 Permits.</b> Permits shall be required as set forth in Section 105.6 and 105.7.
	<b>Reason:</b> Changed to reflect City of Phoenix permit sections.	
107.	<b>5303.4.3</b>	<b>5303.4.3 Piping systems identification.</b> Piping systems shall be marked in accordance with ASME A13.1. Markings used for piping systems shall consist of the content's name and include a direction-of-flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and at not less than every 20 feet (6096 mm) or fraction thereof throughout the piping run. Piping contents and direction of flow shall be identified in accordance with Chapter 50.
	<b>Reason:</b> Added to better identify the section.	
108.	<b>5607.1.8</b>	<b>5607.1.8 Signage.</b> Signs reading "BLASTING ZONE AHEAD" and "TURN OFF TWO-WAY RADIOS" shall be provided when explosive material use is proposed within 1000 feet (304 800mm mm) of public right-of-ways.
	<b>Reason:</b> Alerts the public of location of blasting zones. Remainder of section renumbered.	
109.	<b>5701.1</b>	<b>5701.1 Scope and application.</b> Prevention, control and mitigation of dangerous conditions related to storage, use, dispensing, mixing and handling of flammable and combustible liquids shall be in accordance with Chapter 50 and this chapter. Prior to the installation or modification of piping, systems containing flammable and combustible liquids plans shall be submitted to the Phoenix Fire Department for review and approval. A registered professional engineer shall seal and sign the construction documentation.

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	<b>Reason:</b> Ensures plan review is conducted prior to installation.	
110.	<b>5706.9</b>	<b>5706.9 Location of fuel tanks of sub-based generators.</b> Above-ground fuel storage tanks for generators shall be located with respect to distances to lot lines of adjoining property which can be built on, nearest side of any public way or from nearest important building on the same property in accordance with <del>Tables 3405.3.4(1) and 3405.3.4(2)</del> <b>5705.3.4 (1) and 5705.3.4 (2).</b>
	<b>Reason:</b> Chapters moved in the base code.	
111.	<b>Chapter 80</b>	Adopts NFPA 855 Standard for the Installation of Energy Storage Systems, 2020 Edition
	<b>Reason:</b> This care occurs in other occupancies.	
112.	<b>Remove Chapter 81 from the 2018 International Fire Code (IFC) with Phoenix amendments for proposed adoption as the Phoenix Fire Prevention Fee Schedule, Appendix A, Chapter 15 of the City Code.</b>	