



**UNIFORM MECHANICAL CODE (UMC) TECHNICAL COMMITTEE MEETING NOTES
MAY 15-16, 2018**

Item #	Overview of Proposal	Public and Committee Comments	Technical Comm. Position
001	<p>102.0 Applicability. 102.3 Maintenance. ... Devices, <u>equipment</u> or safeguards required by this code shall be maintained in accordance with the <u>manufacturer’s maintenance instructions so that a hazard is not created</u> code edition under which installed.</p> <p>... the Authority Having Jurisdiction shall be permitted to cause a mechanical system to be reinspected.</p>	Move to reject due to inability to be enforceable and provides no clarity to code. Co-mingling operation and maintenance and placing the responsibility of operation on maintenance.	Reject
002	<p>102.0 Applicability. 102.4 Additions, Alterations, Renovations, or Repairs. ... Additions, alterations, renovations, or repairs to existing mechanical system installations shall comply with the provisions for new construction, <u>. Additions, alterations, or repairs or replacement of equipment in an existing system shall not create a hazard of any kind elsewhere in the system. Any unless such</u> are found to be necessary and are first shall be approved by the Authority Having Jurisdiction.</p>	Move to reject due to unenforceability and is already covered in first paragraph with code; mingling installation and operation responsibilities.	Reject
003	<p>205.0 – C – Conditioned Space. An area, room, or space normally occupied and being heated or cooled for human habitation <u>comfort</u> by any equipment.</p>	Move to accept – concern expressed on the term “human comfort” as being subjective but it was noted the term is used throughout the code.	Accept as Submitted
004	<p>205.0 – C – Cooling System. All of the equipment, <u>ducts and components</u>, including refrigeration, intended or installed for the purpose of cooling air by mechanical means and discharging such air into any room or <u>conditioned</u> space. This definition shall not include an evaporative cooler.</p>	Motion to accept	Approve as Submitted
005	Add definition for “Combination Fire-Smoke Damper”	Motion to amend – delete last added sentence <u>“and is listed to the applicable recognized standard”</u> due to it not being in code language.	Approve as modified
006	<p>206.0 – D – Duct. A tube or <u>conduit passageway</u> for transmission of air, fumes, vapors, or dust...</p>	Motion to reject is due to the term “passageway” not being defined.	Reject
007	<p>207.0 – E – Emergency Alarm System. A system intended to provide <u>the indication notification</u> and warning of abnormal conditions and summon appropriate aid.</p>		Accept as Submitted

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008	210.0 – H – HPM Storage Room. A room used for the storage or dispensing of hazardous production material (HPM) and that is classified as a Group H, Division 1, or Division 2, Division 3, or Division 4 Occupancy.		Accept as Submitted
009	212.0 – J – Add “or bite ring” Joint, Press-Connect.	Change considered unnecessary and does not improve the code.	Reject
010	Revise definitions for “Chimney, Masonry”, “Effective Ground-Fault Current Path”, “Gas Convenience Outlet”, and “Vent Offset” to be equivalent to NFPA 54.		Accept
011	301.0 General. 301.3 Design of Equipment. The installing contractor installers shall furnish satisfactory evidence that the appliance is constructed in accordance with the requirements of this code...	Move to amend – replace “installing” and “installers” to the “installer or...”	Accept as Modified
012	301.0 General. 301.4 Electrical Connections. For equipment regulated by this code: (1) Equipment requiring electrical connections of more than 50 volts shall have a positive means of disconnect adjacent to and in sight from the equipment served. Exception: Other power disconnect means shall be acceptable where in accordance with NFPA 70. (2) A 120 volt receptacle shall be located within 25 feet (7620 mm) of the equipment for service and maintenance purposes. The receptacle outlet shall be on the supply side of the disconnect switch. The receptacle need not be located on the same level as the equipment. (3) Electrical wiring, controls, and connections to equipment and appliances regulated by this code shall be in accordance with NFPA 70.		Reject
013	302.0 Materials- Standards and Alternates. 302.1 Minimum Standards. Listed pipe, pipe fittings, appliances, appurtenances, equipment, materials, and devices used in a mechanical system shall be installed in accordance with the scope of the applicable standards for the product. Products shall be listed (third-party certified) by a listing agency (accredited conformity assessment body) ...	Rejected due to the “scope” of a standard does not cover installation.	Reject
014	302.0 Materials – Standards and Alternates. 302.1 Minimum Standards. ... Unless otherwise provided for in this code, materials, appurtenances, or devices used or entering into the construction of mechanical systems, or parts thereof, shall be submitted to the Authority Having Jurisdiction for approval prior to product being installed.	Motion to amend – strike “product” in last sentence	Approve as modified
015	303.0 Installation. 303.1 Listed Appliances. ... Minimum criteria for the proper installation of HVAC systems shall comply with ACCA 5 QI. ...	Rejected since code language is not needed and manufactures instructions apply. Also, standard does not appear to be enforceable.	Reject

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016	303.0 Installation. 303.3 Unlisted Appliances. Except as otherwise permitted in this code, unlisted equipment and appliances shall be approved by the Authority Having Jurisdiction prior to being installed. ...		Accept
017	303.8 Appliances on Roofs. (remaining text unchanged) 303.8.4 Edge of Roof Clearance. Appliances shall be installed on a well-drained surface of the roof. At least 6 feet (1829 mm) of clearance shall be available between any part of the appliance and the edge of a roof or similar hazard, or. 303.8.4.1 Guards. Where the clearance between the appliance and the edge of roof is not met as required in Section 303.8.4, rigidly fixed rails, guards, parapets, or other 42 inches (1067 mm) in height shall be provided on the exposed side. {NFPA 54:9.4.2.2} Guards shall not be required where personnel fall protection in accordance with ASSE Z359.1 is installed.	Should be in building code and the term in substantiation stating “similar to OSHA” is of concern – it either complies or does not comply with OSHA.	Reject
018	303.8 Appliances on Roofs. (remaining text unchanged) 303.8.5 Electrical Power. All appliances requiring an external source of electrical power for its operation shall be provided with the following: (1) A readily accessible electrical disconnecting means within sight of the appliance that completely de-energizes the appliance. (2) A 120-volt ac grounding-type receptacle outlet on the roof adjacent to the appliance on the supply side of the disconnect switch. {NFPA 54:9.4.2.3}		Reject
019	303.10 Clearances. (remaining text unchanged) 303.10.1 Clearance Reduction. Reduce clearances to combustible construction for listed equipment and appliances shall comply with the listing and Table 303.10.1, except for specific applications and provision as stated in Section 303.10.1.1 through Section 303.10.1.3. Where permitted by the manufacturer, and not provided in this code, reduce clearances to combustible construction for unlisted equipment and appliances shall comply with Table 303.10.1. 303.10.1.1 Type I Hood Exhaust System, Commercial Kitchens. Reduce clearances for Type I exhaust systems used in commercial kitchens shall be in accordance with Section 507.4.2 through Section 507.4.2.3. Clearances from the duct or the exhaust fan to the interior surface of enclosures of combustible construction shall be in accordance with Section 510.7.3 and clearances shall not be reduced.	Type I hoods are used in other applications in addition to Commercial Kitchens	Reject
020	303.0 Installation. 303.10 Clearances. (remaining text unchanged) 303.10.1 Clearance Reduction. (remaining text unchanged)		Accept

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	303.10.1.3 Solid-Fuel Burning Appliances. For solid-fuel burning appliances, the clearance, after reduction , shall not be less than 12 inches (305 mm) to combustible walls and not less than 18 inches (457 mm) to combustible ceilings. The clearance, after reduction, shall be permitted to be less than 12 inches (305 mm) to combustible walls and less than 18 inches (457 mm) to combustible ceilings where the solid-fuel burning appliances is listed for lesser clearance. Solid-fuel burning appliances listed for lesser clearances shall be permitted to be installed in accordance with the manufacturer's instructions and their listing.		
021	305.0 Location. 303.13-305.2 Pit Location. Where excavation is necessary to install an appliance, it shall extend to a the depth shall extend not less than of 6 inches (152 mm) below and 12 inches (305 mm) on all sides of the appliance, except on the service side, which shall have 30 inches (762 mm). Where the depth of the excav pliance or passageway exceeds 12 inches (305 mm), walls shall be lined with concrete or masonry 4 inches (102 mm) above the adjoining ground level.		Accept
022	304.0 Accessibility for Service. 304.4 Appliances in Attics and Under-Floor Spaces. (remaining text unchanged) 304.4.4 Lighting and Convenience Outlet. A permanent 120 tch controlling the lighting fixture shall be located at the entrance to the passageway. [NFPA 54:9.5.3]		Reject
023	310.0 Condensate Wastes and Control. 310.2 Condensate Control. Where an equipment or appliance is installed in a space where damage is capable of resulting from condensate overflow, other than damage to replaceable lay-in ceiling tiles , a drain line shall be provided and shall be drained in accordance with Section 310.1. An additional protection method for condensate overflow shall be provided in accordance with one of the following:...		Accept
024	316.0 Protection of Piping, Tubing, Materials, and Structures. 316.8 Firewalls. A pipe sleeve through a firewall shall have the space around the pipe or tubing completely sealed with an approved fire resistive material in accordance with other codes.		Reject
025	303.0 Installation. 303.8.2 Fasteners. Access All access locks, screws, and bolts shall be of corrosion-resistant material. [NFPA 54:9.4.1.3]		Accept
New Proposal	Inclusion of hangar spacing for CPVC and addition mirrors language in the 2018 UPC.		Accept

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026	Significant changes to ventilation design for various applications.	<p>Motion to modify – 405.2 modify equation from 0.03 to 0.01 for multiplier of Floor Area and remove reference to 62.2 since the equation, before modification, is from ASHRAE 62.2, Bases of modification is that some consider 62.2 is overkill. (This motion was rejected)</p> <p>Concerns with original proposal is that the ASTM standard referenced will conflict with a SMACNA standard already referenced in the UMC. In addition, the proposal “cherry picks” from ASHRAE 62.2. Suggested more research is required on 405.2</p>	Reject
027	Chapter 4 has been revised to correlate with latest edition of ASHRAE 62.1.		Accept
028	<p>403.7.2 Enclosed Parking Garages. Mechanical ventilation systems for enclosed parking garages shall operate continuously. Exceptions: (1) Mechanical ventilation systems shall be permitted to operate intermittently where the system is designed to operate automatically upon detection of vehicle operation or the presence of occupants by approved automatic detection devices. (2) Approved automatic carbon monoxide sensing devices, and nitrogen dioxide detectors shall be permitted to be employed to modulate the ventilation system to not exceed a maximum average concentration of carbon monoxide of 50 parts per million of carbon monoxide, or 1 part per million nitrogen dioxide during an eight-hour period, with a concentration of not more than 200 parts per million for carbon monoxide, or 5 parts per million nitrogen dioxide, for a period not exceeding one hour 15 minutes. Automatic carbon monoxide sensing devices installed in to modulated parking garage ventilation systems shall be approved in on accordance with Section 301.2.</p>		Accept
029	<p>502.2 Termination of Exhaust Ducts. (remaining text unchanged) 502.2.1 Environmental Air Ducts. Environmental air duct exhaust shall terminate not less than 3 feet (914 mm) from a property line, 10 feet (3048 mm) from a forced air inlet, and 3 feet (914 mm) from openings into the building. Environmental exhaust ducts shall not discharge onto a public walkway at an elevation less than 10 feet (3048 mm) above adjoining grade.</p>	Motion to reject based on the proposed requirement being arbitrary. It was noted that the requirement is based on calculations existing in ASHRAE standard.	Reject

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		Concern raised about allowing discharge into a public parkway	
030	502.2 Termination of Exhaust Ducts. (remaining text unchanged) 502.2.1 Environmental Air Ducts. Environmental air duct exhaust shall terminate not less than 3 feet (914 mm) from a property line, 10 feet (3048 mm) from a forced air inlet, and 3 feet (914 mm) from openings into the building. Environmental exhaust ducts shall not discharge onto a public walkway at an elevation less than 10 feet (3048 mm) above adjoining grade.	See item 29	Reject
031	502.2.1 Environmental Air Ducts. Environmental air duct exhaust shall terminate not less than 3 feet (914 mm) from a property line, 10 feet (3048 mm) from a forced air inlet, and 3 feet (914 mm) from openings into a conditioned space of the building. Environmental exhaust ducts shall not discharge onto a public walkway. 502.2.2 Product Conveying Ducts. Ducts conveying explosive or f 4 mm) from a property line, 10 feet (3048 mm) from openings into a conditioned space of the building, 6 feet (1829 mm) from exterior walls or roofs	See item 29	Reject
032	505.6 Fire Dampers. (remaining text unchanged) 505.6.1 Prohibited. Fire Dampers shall not be installed if the material being exhausted is toxic, highly toxic, unstable, reactive, corrosive, or a virulent Biologics and if a risk evaluation indicates that the hazard imposed is greater than the fire hazard.	Not written in code language	Reject
033	In the 2018 edition of the UMC, Table 1701.1 has been split into two separate tables. Therefore, the existing reference to those tables must be revised to provide the proper standard for the applications. Section 506.1 and Section 506.2 s. This is necessary as the standards in Table 1701.2 must be approved by the AHU prior to their use.		Reject
034	506.0 Product-Conveying Ducts. 506.3 Penetrations. Exhaust ducts shall not pass through fire walls, as defined by NFPA 221. [NFPA 91:4.2.11]		Reject
035	507.0 General Requirements. 507.1 Type I Hood Exhaust System. Exhaust systems serving Type I hoods shall comply with Section 507.0 through Section 518.0. Exhaust systems serving Type II hoods shall comply with Section 519.0. 519.0 Type II Hood Exhaust System Requirements. 519.3 Type II Hood Exhaust System Net Airflow. The net airflow for Type II hoods shall be in accordance with Section 508.5.1.5 for light duty cooking appliances. The net airflow for Type II hoods serving washing machines shall comply with Section 519.3.1.	Concern that change does not help the AHJ or installer; not sure what is meant by “washing machines” ; “light-duty not defined.	Reject

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036	<p>508.0 Type I Hoods 508.1 Where Required. Exceptions: (1) Cooking appliance that is listed in accordance with UL 710B for reduced emissions where the grease discharge does not exceed 2.9 E-09 ounces per cubic inch (oz/in³) (5.0E-06 kg/m³) where operated with a total airflow of 500 cubic feet per minute (cfm) (0.236 m³/s). (2) Recirculating systems listed in accordance with UL 710B and installed in accordance with Section 516.0. (3) <u>Downdraft appliance ventilation system listed and installed in accordance with Section 518.0.</u></p>		Reject
037	<p>508.0 Type I Hoods. Exceptions: (1) A Type I hood shall not be required for a cooking appliance that is listed in accordance with UL 710B for reduced emissions where the grease discharge does not exceed 2.9 E-09 ounces per cubic inch (oz/in³) (5.0 E-06 kg/m³) where operated with a total airflow of 500 cubic feet per minute (cfm) (0.236 m³/s).</p>		Reject
038	<p>510.4 Listed Grease Ducts. (remaining text unchanged) 510.4.1 Factory Built Grease Ducts. Factory built grease ducts in accordance with UL 1978 shall be permitted to incorporate non-welded joints in accordance with their listings.</p>		Reject
039	<p>510.5.5 Telescoping and Bell-Type Connections. For telescoping and bell-type connections, the inside duct section shall always be uphill of the outside duct section. [NFPA 96:7.5.5.3] <u>The overlap shall not exceed 2 inches (51 mm) as shown in Figure 510.5.3.2(1).</u></p>		Accept
040	<p>510.9.1 Rooftop Terminations. (remaining text unchanged) 510.9.1.1 Listed Flexible Connectors. Listed flexible connectors shall be permitted to be used on exterior roof locations where required for proper equipment vibration isolation.</p> <p>511.1.3.1 At the Rooftop. Fans installed at the rooftop termination point shall be in accordance with the following: (1) Section 510.9.1 and Section 510.9.1.2. (2) Flexible connectors shall be permitted prohibited.</p>	Current language needed for clarification and direction to the AHJ and installer.	Reject
041	<p>516.2 Design Restrictions. (remaining text unchanged)</p>		Reject

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	516.2.1 Gas/Electrically Fueled Cooking Appliances – delete NFPA 54 since already covered elsewhere in the code.		
042	519.5 Termination of Type II Hood Exhaust System. The exhaust system shall terminate as follows: (3) The termination outlet shall not be directed onto a public way.		Accept
043	504.4.3.1 Exhaust Ducts for Type 2 Clothes Dryers being revised to the latest edition of NFPA 54-2018		Accept
044	Section Chapter 5 is being revised to the latest edition of NFPA 96-2018.	It was noted that NFPA 10.5.3 in incorrect (there is no section); Motion to amend to remove reference to EPA Test Method 202 since it is a handbook not a standard;	Accept as modified.
045	601.1 Applicability. Ducts and plenums that are portions of a hearing, cooling, ventilation, or exhaust system shall comply with the requirements of this chapter, <u>except as specified otherwise in Chapters 5 and 7.</u>		Reject
046	601.0 General. 601.2 Sizing Requirements. Duct systems shall be sized in accordance with ACCA Manual D listed in Table 1701.1, other approved methods; <u>zoned duct systems shall also comply with ACCA Manual Zr</u>	ACCA Manual is a draft and is not completed at the time the proposal was submitted. Proponent noted the document is now a published ANSI standard.	Reject
047	601.2 Sizing Requirements. Duct systems shall be sized in accordance with <u>ANSI</u> /ACCA Manual D listed in Table 1701.1, or by other approved methods.	Other “ANSI” standards in the code do not carry the ANSI designation	Reject
048	In the 2018 edition of the UMC, Table 1701.1 has been split into two separate tables. Therefore, the existing reference to those tables must be revised to provide the proper standard for the applications. Section 601.2, Section 902.1, 1105.1, and 1701.1 as it is unnecessary. All standards referenced in the body of the code are listed in Table 1701.1.	The big issue is that, even though it is in the code already, ACCA Manual D is for residential only but the code does not state the limitation. Subsequent Modification – add a footnote to sizing referencing the ACCA Manual D for residential applications.	Accept as modified
049	602.2 Combustibles Within Ducts or Plenums. (remaining text unchanged) <u>602.2.6 Plastic Piping and Tubing in Plumbing Systems. Plastic piping and tubing used in plumbing systems shall be permitted to be used within a plenum if it exhibits a flame spread index of 25 or less and a smoke developed</u>		Reject



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	<p><u>index of 50 or less when tested in accordance with ASTM E84 or UL 723, at full width of the tunnel and with no water or any other liquid in the pipe during the test, unless otherwise permitted by Section 602.2.6.1. [NFPA 90A 4.3.11.5.5.7]</u></p> <p>602.2.6.1 Plastic Water Distribution Piping and Tubing. Plastic water distribution piping and tubing listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of d installed in accordance with its listing, shall be permitted to be used within a plenum. [NFPA 90A 4.3.11.5.5.8]</p>		
050	<p>602.2 Combustibles Within Ducts or Plenums. (remaining text unchanged) (1) - (8) (remaining text unchanged) (9) Plastic water distribution piping and tubing listed and labeled for use in plenums with a flame spread distance not exceeding 5 feet (1524 mm), an average optical density not exceeding 0.15, and a peak optical density not exceeding 0.5, where tested in accordance with UL 2846.</p>		Reject
051	<p>602.0 Material. 602.2 Combustibles Within Ducts or Plenums. Materials exposed within ducts or plenums shall be noncombustible or shall have a flame spread index not to exceed 25 and a smoke-developed index not to exceed 50, where tested as a composite product in accordance with ASTM E84 or UL 723. <u>Plastic piping installed in plenums shall be tested in accordance with materials for testing that are not specified in ASTM E84 or UL 723 shall be prohibited.</u></p>		Accept
052	<p>602.0 Material. 602.2 Combustibles Within Ducts or Plenums. Materials exposed within ducts or plenums shall be noncombustible or shall have a flame spread index not to exceed 25 and a smoke-developed index not to exceed 50, where tested as a composite product in accordance with ASTM E84 or UL 723. Exceptions: (1) - (4) (text unchanged) (5) Products listed and labeled for installation within plenums in accordance with Section 602.2.1 through Section 602.2.3 <u>602.2.4.</u></p>		Reject
053	602.0 Material.		Reject

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	<p>602.2 Combustibles Within Ducts or Plenums. (remaining text unchanged)</p> <p><u>602.2.5 Communications Raceways. Communications raceways shall be listed as having a maximum peak optical density of 0.50 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 5 feet (1524 mm) or less when tested in accordance with UL 2024. [NFPA 90A: 4.3.11.2.6.4]</u></p>		
054	<p>Section 603.4 (Factory Made Air Ducts) has been split into two categories; Section 602.3 (Metallic) and Section 602.4 (Nonmetallic). Section 602.3 will provide the minimum requirements for metallic ducts. Section 602.4 specifies the requirements for phenolic, gypsum and other materials. The phrase “Metal ducts shall be installed with not less than 4 inches (102 mm) separation from earth” is being removed from Section 603.3, since this requirement is already stated under the new general Section 603.1.3 (Protection), which applies to all duct materials except plastic ducts. Section 603.4.1 (Length Limitation) has been relocated under the “Flexible Air Ducts” section. Section 603.8 (Support of Ducts) is being modified for clarity as all air ducts are supported in accordance SMACNA or the manufacturer’s installation instructions, not only air ducts that are in accordance with UL 181. Section 603.10 (Joints and Seams of Ducts) was separated into its own respective section, 603.10.1 (Closure Systems), as closure systems have unique requirements ot necessarily apply to joints and seams. Under Section 604.1, the term “factory-made air ducts” is being removed</p>	<p>Concerns: states must comply with UL 181 even if a new material arises; why is plastic duct exempted; why are riser information added that is greater than or less than existing SMACNA requirements; significant language is already in SMACNA standards; current wording would ban flexible air connectors. It was noted some of the issues raised are already in the Code.</p>	Accept
055	<p>602.0 Material.</p> <p><u>602.6 Fiberglass Reinforced Plastic (FRP). Fiberglass Reinforced Plastic (F 181 and shall be constructed in accordance with SMACNA Thermoset FRP Duct Construction Manual Standards.</u></p>	<p>Manual is not written in mandatory language.</p>	Reject
056	<p>602.0 Material.</p> <p><u>602.7 Thermoplastics. Thermoplastic (PVC) duct, plenum, or fitting material shall comply with UL 181 and shall be constructed in accordance with SMACNA Thermoplastic Duct (PVC) Construction Manual Standards.</u></p>	<p>See item 56</p>	Reject
057	<p>Delete length limitation for Flexible ducts in commercial applications</p>	<p>Based on action taken in 054.</p>	Reject
058	<p>603.0 Installation of Ducts.</p> <p><u>603.4.1 Length Limitation. Factory-made flexible air ducts and connectors shall in lieu of rigid elbows or fittings. Flexible air ducts shall be permitted to be used as an elbow at a terminal device.</u></p>	<p>Based on action taken on 054.</p>	Reject
059	<p>603.4 Factory-Made Air Ducts. (remaining text unchanged)</p>	<p>Based on action taken in 054 and the length is arbitrary</p>	Reject

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	<p>603.4.1 Length Limitation. Factory-made flexible air ducts and connectors shall be not more than 5-7 feet (1524 <u>2134</u> mm) in length and shall not be used in lieu of rigid elbows or fittings. Flexible air ducts shall be permitted to be used as an elbow at a terminal device. Exception: Residential occupancies.</p>		
060	<p>603.5 Flexible Air Ducts. (8) Fittings for attaching non-metallic ducts shall be beaded and have a collar length of not less than 2 inches (51 mm) for attaching the duct. Exception: A bead shall not be required where metal worm-gear clamps are used where attaching metallic ducts using screws in accordance with the manufacturer's installation instructions.</p>		Reject
061	<p>603.5 Flexible Air Ducts. Flexible air ducts shall comply with instructions and SMACNA HVAC Duct Construction Standards – Metal and Flexible. Flexible air duct installations shall comply with the following: (1) - (7) (remaining text unchanged) (8) Fittings for attaching non-metallic ducts shall be beaded and have a collar length of not less than 2 inches (51 mm) for attaching the duct. <u>Metal worm-gear clamps shall be used.</u> Exception: A bead shall not be required where metal worm-gear clamps are used or where attaching metallic ducts using screws in accordance with the manufacturer's installation instructions.</p>	<p>Concern with proposal is that if approved, a significant number of clamps listed to UL 181 would be not allowed. Will add cost to the installation.</p>	Accept
062	The support requirements for ducts are being relocated into one section for ease of use in the code		Accept
063	<p>603.0 Installation of Ducts. 603.10 Joints and Seams of Ducts. (remaining text unchanged) 603.10.1 Duct Leakage Tests. Ductwork <u>that is designed to operate at static pressures in excess of 3 inches of water column (0.7 kPa) and all ductwork located outdoors</u> shall be leak-tested in accordance with the SMACNA HVAC Air Duct Leakage Test Manual.</p>	Concern is all ducts should be tested.	Reject
064	<p>603.0 Installation of Ducts. 603.11 Cross Contamination. <u>Exhaust ducts that convey Class 4 air shall be negatively pressurized relative to ducts, plenums, or occupiable spaces through which the ducts pass.</u> Exhaust ducts and venting systems under positive pressure <u>that convey Class 2 or Class 3 air</u> shall not extend into or pass through ducts, or plenums, or occupiable spaces other than the space from which the exhaust air is drawn. <u>Exception: Exhaust ducts conveying Class 2 air and exhaust ducts conveying air from residential kitchen hoods that are sealed in accordance with SMACNA Seal Class A. [ASHRAE 62.1:5.2.1, 5.2.2]</u></p>		Accept



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065	Provides duct clearance requirements under Chapter 6.		Accept
066			Accept
067	Ventilating Ceilings (2) Lighting fixtures Luminaires recessed into ventilating ceilings shall be of a type approved for that purpose.	The term “light fixture” has been replaced in the NEC with “Luminaires”	Accept
068	Section 701.5, Section 701.7.3, and Section 702.1 are being revised to the latest edition of NFPA 54-2018.		Accept
069	Section Chapter 8 is being revised to the latest edition of NFPA 54-2018.		Accept
070	802.5.1.2 Listing Requirements. Factory-built chimneys shall comply with the requirements s UL 103, UL 959 or UL 2561 for use with wood-burning appliances shall comply with the Type HT requirements of UL 103. {NFPA 211-6.1.3.1, 6.1.3.2}		Accept
071	901.0 General. 901.1 Applicable requirements of this chapter, appliances shall comply with ASHRAE 188 and the general requirements of Chapter 3.	Overly restrictive and outside scope of the UMC	Reject
072	Chapter 9 is being revised to the latest edition of NFPA 54-2018.		Accept
073	Revise Section 903.1 for electric air conditioners to clarify only specific appliances can be used for refrigeration systems. UL 60335-2-24 and UL 60335-2-89 are appropriate for the application.	Household consumer appliances are not covered under the UMC; more research is needed on A2L refrigerants.	Reject
074	Furnace Plenums and Ducts used in fuel-gas appliances - delete reference to NFPA 90 since requirements are stated in the UMC.		Accept
075	904.0 Central Heating Boilers and Furnaces. 904.14 Electric Central Furnaces. Electric central heating furnaces shall comply with UL 1995 or UL 60335-2-40 ...		Accept
076	Incorporate UL 1370 for Unvented Decorative Appliances.	Concern with safety of devices and emission of gases	Reject
077	Section 911.0 has been revised to include standards for decorative solid-fuel burning fireplaces and natural log appliances.	Current code language covers and is preferred; no definition for “solid-fuel burning”	Reject
078	Addition of UL 923 for microwave ovens.		Accept
079	922.4 Commercial Units. Commercial open-top broiler units shall be provided with ventilation in accordance with NFPA-96 Chapter 5, Part II. {NFPA-54:10.18.4}	Modify to remove deletion of NFPA 54	Accept as Modified
080	Add UL 60335-2-89 as an alternative standard to UL 412, UL 427, and UL 471 for self-contained refrigerators and freezers.	Modify to add the word “shall” before “be installed in accordance with ...”	Accept as Modified
081	Add UL 60335-2-89 is an alternative standard to UL 412, UL 427, and UL 471 for unit coolers.	Modify to add the word “shall” before “be installed in accordance with ...”	Accept as Modified



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082	UL 60335-2-89 is an alternative standard to UL 412, UL 427, and UL 471	Modify to add the word "shall" before "be installed in accordance with ..."	Accept as Modified
083	Incorporate requirements for Unvented Alcohol Fuel-Burning Decorative Appliances.	Concern with safety of devices and emission of gases.	Reject
084	Add ASSE 1012, 1015 and 1081; AWWA C510, C511; CSA B64.4 and B64.5	Connections to potable water are already addressed in section 3 which refers to the UPC.	Reject
085	Editorial changes to table 1102.2		Accept
086	Add IAR 6-2018 for ammonia refrigeration systems	Out of the scope of the code and more of a maintenance requirement	Reject
087	Revise Table 1102.3 <i>Refrigerant Groups, Properties, and Allowable Quantities</i> to be consistent with ASHRAE 34.	Modified to include new refrigerants added to the ASHRAE 34 not in the proposal.	Accept
088	Add definition for "Low Probability Pump		Accept
089	Add A2L refrigerant to Table 1104.1 <i>Permissible Refrigerant Systems</i>	Based on action taken on 091	Reject
090	Revise Chapter 11 to be consistent with ASHRAE 15		Accept
091	Not allow Group B2L refrigerants for high probability systems for human comfort by adding them to prohibited list.	Modify 1104.6 to prohibit A2L and strike remaining language. Opposition to modification since ASHRAE 15 has accepted use of A2L for high probability systems for human comfort.	Accept as Modified
092	Add ACCA Manual J and Manual S to 1105.1 Human Comfort.	Modified to strike out "dwelling units" and put in "residential buildings"	Accept as Modified
093	Delete 1105.4, Illumination and Service Receptacles	Information provides clarity to AHJ and installer	Reject
094	Delete 1107.4 Machinery Rooms requiring a door opening directly to outdoors	Concern that no supporting documentation to remove a safety requirement.	Reject
095	1108.0 Refrigeration Machinery Room Equipment and Controls. 1108.1 General. Equipment, piping, ducts, vents, or similar devices that are not essential for the refrigeration process, maintenance of the equipment, or for the illumination, ventilation, or fire protection of the room require maintenance by personnel not authorized to access the refrigeration machinery room per Section 1106.11 shall not be placed in or pass through a refrigeration machinery room.	Current code language preferred and not enforceable	Reject

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096	Update all refrigerant piping requirements addressing every type of refrigerant system other than ammonia. This proposed changes reorganizes and updates the requirements for refrigerant piping.	Language is not "user friendly" for installer; concern with UMC legislating refrigerant requirements that fall into ASHRAE scope.	Reject
097	Add to 1109.0 Refrigeration Piping, Containers, and Valves reference to PE-RT/AL/PE-RT tubing that is being used for refrigeration line sets Nationwide.	Standard is a working draft.	Reject
098	Significant revision to definition of "Refrigeration System, Indirect" and 1111.0 Pressure-Limiting Devices based on ASHRAE 15		Accept
099	Add ASHRAE 188 to 1127.0 Operation and Maintenance of Cooling Towers		Reject
100	1201.3 Water Hammer <u>Protection</u> . The <u>flow of the hydronic</u> piping system shall be <u>designed controlled</u> to prevent water hammer.	System should be designed to prevent water hammer and it is not necessary to correlate with other codes as noted in the substantiation.	Reject
101	Table 1203.2 Water Heaters revised to include "Fired" after Gas and Solid Fuel and add the term "Storage" after Btu/h or less...		Approve
102	1308.5.8 Metallic Piping Joints and Fittings. (remaining text unchanged) 1308.5.8.1 <u>Pipe Copper, Copper Alloy, and Stainless Steel Tubing</u> Joints. <u>Pipe Copper, copper alloy, or stainless steel tubing</u> joints shall be threaded, flanged, brazed, welded, or press-connect fittings made in accordance with CSA LC-4. <u>The tubing shall be assembled with an approved fitting. Where nonferrous pipe is brazed, the brazing materials shall have a melting point in excess of 1000°F (538°C). Brazing alloys shall not contain more than 0.05 percent phosphorus. Brazing alloys and fluxes shall be permitted to be used where approved by the manufacturer for use on stainless steel alloy tubing joints.</u>	Modified to delete the entire section due to acceptance of 145	Accept as Modified
103	1209.0 Expansion Tanks. 1209.1 General. An expansion tank shall be installed in each closed hydronic system to control system pressure due to thermal expansion <u>and contraction</u> . Expansion tanks shall be of the closed or open type. <u>Expansion T</u> tanks shall be rated for the pressure of the system. 1209.2 Installation. ... Each tank shall be equipped with a shutoff device that will remain open during operation of the <u>heating hydronic</u> system.		Accept
104	Add ASTM standards for stainless steel piping into Table 1210.1 and Table 1701.1	Standards A269, A312, A554, and A778 are pipe standards and should not be listed on the fitting side.	Accept as Modified
105	Add ASTM F1005 in table 1210.1 for Cross-Linked Polyethylene (PEX)		Accept
106	Add ASTM F3253 to table 1210.1 for Cross-Linked Polyethylene (PEX)		Accept
107	Add IAPMO PS 117 for Copper/Copper Alloy Fittings to Tables 1210.1 and 1701.1		Accept

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108	Add CSA B137.11 to table 1210.1 for PP piping/tubing and fittings		Accept
109	1211.0 Joints and Connections. 1211.2 Chlorinated Polyvinyl Chloride (CPVC) Pipe. (1) Mechanical joints shall include, <u>but not be limited to</u> , flanged, grooved, and push fit fittings. 1211.3 CPVC/AL/CPVC Plastic Pipe and Joints. (1) Mechanical joints shall include, <u>but not be limited to</u> , flanged and grooved <u>fittings</u> .	Concern is the term “not limited to” is not enforceable.	Reject
110	Add “copper <u>or copper alloy</u> ” to 1211.4 Copper Alloy Pipe and Tubing.		Accept
111	Add ASTM D2855 for two-step (primer and solvent cement) method of joining PVC or CPVC Pipe and fittings to PVC Pipe section	Concern that D2855 is not written in mandatory language and is a guide/method in conducting the process. It was noted that the code change states the process “shall” be used which makes the method mandatory.	Reject
112	1211.0 Joints and Connections. 1211.14 Joints Between <u>Various Different</u> Materials. Joints between <u>various different types of</u> materials shall be installed		Reject
113	1213.0 System Controls. <u>1213.4 Simultaneous Operation. Radiant heating and cooling systems sharing a common space temperature control shall be configured to prevent simultaneous heating and cooling.</u>		Accept
114	1213.0 System Controls. <u>1213.5 Temperature Reading. A temperature gauge or transmitter shall be installed for reading the fluid temperatures in the panel system supply and heat source outlet. One temperature gauge or transmitter shall be permitted where the temperature between the heat source outlet and panel system supply are the same.</u>		Accept
115	Replace “water” with “fluid” in 1214.4 for Pressure and Flow Controls, Automatic Makeup Fluid.	Recommend modification to strike both “water” and “fluid” the second paragraph.	Accept as Modified
116	Add following to ASTM 1214.4 for Pressure and Flow Controls, Automatic Makeup Fluid - <u>Where an automatic makeup water supply fill device for a closed loop system is supplied by a potable water supply, the fill system shall automatically shut off flow when the supplied makeup water volume exceeds 5 gallons (19 L). A manual reset shall be required.</u>		Reject
117	Add following to ASTM 1214.4 for Pressure and Flow Controls, Automatic Makeup Fluid - <u>Where an automatic makeup water supply fill device for a closed loop system is supplied by a potable water supply, the fill system shall automatically shut off flow when the supplied makeup water volume exceeds the greater of 5 gallons (19 L) or five percent of the total system fluid volume. A manual reset shall be required.</u>	Motion to modify to include approved revisions under 115. Concern expressed that there is not sufficient product on the	Accept

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	<u>Where an automatic makeup fluid fill device for a closed loop system is supplied by an isolated tank, the fluid capacity of the tank shall not exceed the greater of 5 gallons (19 L) or 5 percent of the total system fluid volume.</u>	market to actually accomplish what is being suggested. It was accepted based on covering both larger and smaller systems.	
118	1214.5 Differential Pressure Regulation. Provisions shall be made to control <u>bypass</u> zone flows <u>in excess of design velocity</u> in a multi-zone hydronic system where the closing of some or all of the two-way zone valves causes excess flow through the open zones or deadheading of a fixed-speed <u>circulator or</u> pump.		Accept
119	In 1214.0 Pressure and Flow Controls – change the term “distribution system” to “hydronic system”		Accept
120	Add new sections to section 1217.0 Radiant Heating and Cooling providing guidance to installers and inspectors about approved type of tube fasteners.		Accept
121	Section 1210.0 Radiant Heating and Cooling, poured floor slab systems, insulation and insulation for snow and ice melt – change to “recommended by the manufacture” in several locations	Recommend modification to not remove the word “compacted”. It was noted the removal of the word is not defined.	Accept
122	Add new sections under 1217.5 and 1220.0 - <u>Spacing of Tube Fasteners. The maximum spacing between tube fasteners within a concrete floor shall not exceed the spacing specified by the manufacturer or, in the absence of manufacturer's specifications, 2.5 feet (762 mm).</u>		Accept
123	Delete “and shall be listed for the application” from section covering radiant heating and cooling panels.		Accept
124	Delete section 1217.6.1 for Electric Heating Panel Systems under Radiant Heating and Cooling.		Reject
125	Change 1220.0 from Auxiliary Snow and Ice Melt and require testing in accordance with 1205.2 and flushing according to section 1205.3		Accept
126	Delete entire section 1220.1 for Use of Chemical Additives and Corrosive Fluids under 1220.0 for Auxiliary Systems.		Reject
127	1220.2 Snow and Ice Melt Controls. An automatic thermostatically operating control device that controls the supply hydronic <u>solution fluid</u> temperature to the snow and ice melt area shall be installed in the system. <u>A means shall be provided to prevent low return hydronic fluid temperature in accordance with Section 1201.5.</u> Snow and ice melt systems shall be protected from freezing with a mixture of propylene glycol or ethylene glycol , and water, or other approved fluid. Automotive antifreeze shall not be used.		Reject
128	1220.0 Auxiliary Systems, 1220.1 Tube Placement - ... Except for distribution mains, tube <u>spacing</u> and the individual loop lengths shall be installed with a variance of not more than ±10 percent from the design...		Accept
129	1220.2.2 Poured Structural Concrete Slab Systems (Thermal Mass). Where tubes are embedded in a <u>structural</u> concrete slab ... and shall be spaced not less than three diameters on center <u>except within 10 feet (3048 mm) of the distribution manifold.</u> The top of the tubing shall be embedded in the slab not less than 2 inches (51 mm) below the surface <u>of the finished concrete slab.</u>		Accept

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130	1220.2.3 Slab Penetration Tube and Joint Protection. ... slab with protective sleeving approved <u>recommended</u> by the tubing manufacturer. The space between the tubing and sleeve shall be sealed with an approved sealant <u>recommended by the tubing manufacturer as</u> compatible with the tubing.	Preferred language is "approved"	Reject
131	Delete - 1220.2.4 Concrete Slab Preparation. A solid foundation shall be prepared before the tubing is installed. Compaction shall be used for slabs, sidewalks, and driveways.		Reject
132	Delete - 1220.3 Hydronic Makeup Air Units. Hydronic makeup air units that are affected by freezing shall be protected against freezing by a hydronic solution.		Reject
133	For radiant heating and cooling system embedded piping materials and joints not be rated less than 80 psi at 180F vs current 100 psi		Accept
134	1221.2 Embedded Piping Materials and Joints. (remaining text unchanged) 1221.2.3 Plastics. Plastic pipe and tubing shall be installed in continuous lengths or shall be joined by heat fusion methods, <u>solvent cement joints, or other approved fittings in accordance with Table 1210.1 and the manufacturer's installation instructions.</u>	Looking to prevent joints under slabs other than heat fusion.	Reject
135	1221.2.3 Plastics. Plastic Pipe and tubing shall be installed in continuous lengths or shall be joined by heat fusion <u>or an approved joining method.</u>	Looking to prevent joints under slabs other than heat fusion.	Reject
136	1308.0 Gas Piping System Design, Materials, and Components. 1308.5.8 Metallic Piping Joints and Fittings. (remaining text unchanged) 1308.5.8.1 <u>Pipe Copper, Copper Alloy, and Stainless Steel Tubing</u> Joints. Pipe Copper, copper alloy, or stainless steel tubing joints shall be threaded, flanged, brazed, welded, or press-connect fittings made in accordance with CSA LC-4. <u>The tubing shall be assembled with an approved fitting. Where nonferrous pipe is brazed, †</u> The brazing materials shall have a melting point in excess of 1000°F (538°C). Brazing alloys shall not contain more than 0.05 percent phosphorus. <u>For stainless steel alloys, brazing alloys and fluxes shall be permitted to be used where approved by the manufacturer for use on stainless steel alloys.</u>	Rejection based on acceptance of 145	Reject
137	1308.5.8.4 Metallic Pipe Fittings (Including Valves, Strainers, Filters). 2) Fittings used with steel, <u>stainless steel</u> , or wrought-iron pipe shall be steel, <u>stainless steel</u> , copper alloy, bronze...		Accept
138	1310.1.3 Protection Against Corrosion. (remaining text unchanged), 1310.1.3.2 Underground Piping. <u>(4) The piping shall be installed within an encasement system listed for underground use or a non-metallic, watertight conduit.</u>	Concern that proposal would allow burial of pipe without a factory applied coating.	Reject
139	1310.1.6 Piping Underground Beneath Buildings. – add IAPMO IGC 201 for PE sleeved corrugated steel tubing.	Would allow for direct burial of corrugated steel tubing.	Reject
140	1310.3 Concealed Piping in Buildings. (remaining text unchanged), 1310.3.1 Connections. Add reference to CSA LC 1 and CSA LC 4 to fitting requirements.	Modify to delete "CSA LC1 or" and add "Press connect" at beginning of (3)	Accept as Modified

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		Concern that modification does not allow listed CST fittings for concealed locations	
141	1312.0 Appliance Connections to Building Piping.1312.6 Appliance Shutoff Valves and Connections. - ... A union or flanged connection shall be provided downstream from the valve to permit removal of appliance controls. Shutoff valves serving decorative appliances shall be permitted to be installed in fireplaces if listed for such use. [NFPA 54:9.6.5, 9.6.5.1(A)(B)] Exceptions: (1) Shutoff valves serving decorative appliances in a fireplace shall not be permitted to be accessibly located inside or under an appliance within the fireplace firebox except where such appliance is removed without removal of the shutoff the valve is listed for such use.		Accept
142	Add exception for requirements for 1312.6 Appliance Shutoff Valves and Connections – (3) Where installed at a manifold, the appliance shutoff valve shall be located within 50 feet (15 240 mm) of the appliance served and shall be readily accessible and permanently identified. The piping from the manifold to within 6 feet (1829 mm) of the appliance shall be designed, sized, installed, and tested in accordance with Chapter 12. [NFPA 54:9.6.5.3]		Reject
143	Proposal to permit the use of the pressure test criteria contain in the 2018 National Fuel Gas Code while continuing to allow the current UPC pressure test criteria when it is determined by the AHJ that an elevated pressure test is need for a particular piping installation.	Concern appears to be “relaxing” an existing requirement.	Reject
144	Delete [no column for actual length of 55 feet (16 764 mm)] from Solution 4 of figure 1315.1 Example Illustrating Use of Table 1308.4.1 and 1315.2		
145	Significant revisions to bring Chapter 13 consistent with NFPA 54.	Modified to remove Sch. 10 stainless steel pipe in the proposed revisions.	Accept as Modified
146	Under Chapter 14 related to AHJ acceptance of new technology a new item is being added to allow the AHJ to require owner to obtain at their cost a technical opinion and report.	Concern is it is unambiguous and unenforceable.	Reject
147	Add ASME B31.3 to 1406.1.		Accept
148	HPP Gases – Gas Detection System - Require level of monitoring to detect the presence of a flammable gas or vapor is monitored at 25% of the LEL compared to existing 20%.		Accept
149	Appendix B adding the term “installation” in front of instructions.		Accept
150	Delete entire D 105.0 Cathodic Protection Requirements.		Reject
151	Revise Appendix D is being revised to the latest edition of NFPA 501A-2017		Accept
152	Appendix E has been revised to correlate with the latest ASHRAE 90.1-20		Accept

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153	Add to Appendix e ASHRAE 188 under HVAC Water Use and Operation and Maintenance	Refer to item 99; after rejection a reconsideration vote was moved and was approved. Stayed as rejected	Reject
154	Revisions to Appendix E to correlate with ASHRAE 90.1		Accept
155	Add NSF 358-4 covering plastic ground source loop piping used in geothermal systems.	Was a working draft at the time the proposals were submitted	Reject
156	Revisions to Appendix E to correlate with ASHRAE 62.2		Accept
157	Add following to Appendix E, Bathroom and Exhaust Fans - <u>E 605.2.1 Venting Through a Soffit. All mechanical exhaust fans in rooms containing a bathtub, shower, or tub/shower combinations, when vented to the exterior through the soffit, shall be attached to a soffit vent termination that effectively displaces the exhausted air outside of the soffit's passive air stream.</u>	Proprietary product	Reject
158	Appendix E has been revised to correlate with the latest ASHRAE 62.2-2016	Concern that all mandatory language has been eliminated	Reject
159	New Appendix F for Geothermal Systems - Add definitions for “Ground-Source Heat Pump”, “Geothermal Energy Systems”, “Ground-Heat Exchanger”, “Hydronic System” and “Ground Water Source”. Adds section for Closed Loop Systems	Proposed Modification to move definitions directly into the Appendix	Accept as modified
160	New Appendix F for Geothermal Systems - Requirements for Groundwater Systems and add reference to NGWA-01		Accept
161	New Appendix F for Geothermal Systems – addition of design requirements and sizing of the ground heat exchanger.		Accept
162	New Appendix F for Geothermal Systems – installation requirements for vertical ground loops and added reference to NSF 60.		Accept
163	New Appendix F for Geothermal Systems – addresses pipe joining and testing of the ground heat exchanger.		Accept
164	New Appendix F for Geothermal Systems – revisions to piping and tubing material standards	Modified to table 103.5 NSF 358-4 is a working draft so should be deleted from the proposal. NSF noted the final publication was provided to TC in a timely manner for consideration.	Accept as Modified
165	New Appendix F for Geothermal Systems – incorporation of installation requirements.		Accept
166	New Appendix F for Geothermal Systems – incorporation of testing requirements for Ground-Heat Exchangers		Accept



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167	New Appendix F for Geothermal Systems – incorporation of design requirements for heat pump distribution systems.		Accept
168	New Appendix F for Geothermal Systems – adding system start up, operation and maintenance requirements.		Accept
169	New Appendix F for Geothermal Systems – add Part II for Open-Loop Systems		Accept
170	New Appendix F for Geothermal Systems – add requirements for setbacks for open loop ground heat-exchangers	Modifications made to insert the word “minimum” in front of setbacks. Add addition “the requirements of the AHJ shall supersede these minimum setbacks”	Accept as Modified
171	New Appendix F for Geothermal Systems – add requirements for open ground water systems		Accept
172	New Appendix F for Geothermal Systems – add requirements for water wells and injection wells	Modified to bring definitions directly into the Appendix	Accept as modified
173	New Appendix F for Geothermal Systems – add requirements for horizontal piping from extraction wells and to injection wells		Accept
174	New Appendix F for Geothermal Systems – incorporation of variable and constant rate pump testing procedures		Accept
175	New Appendix F for Geothermal Systems – addition of system start up and delivery requirements and incorporation of CSA C448.1 and .2		Accept
176	New Appendix F for Geothermal Systems – addition of decommissioning and abandonment requirements		Accept
177	Revise existing Appendix F to be consistent with NFPA 54		Accept
178	Updating AHRI 700 edition to 2017a and AHRI 1230 to 2014a		Accept
179	Updating ASCE 25 to 2016 edition		Accept
180	Updating ASHRAE Handbook to 2017 edition		Accept
181	Updating various ASME standards to current editions		Accept
182			Accept
182			Accept
183			Accept
184			Accept
185			Accept
186			Accept
187			Accept
188			Accept
189			Accept
190			Accept



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191			Accept
192			Accept
193			Accept
194			Accept
	Other Business		
	Next scheduled meeting April 27 to 29th		