

2015-2017 PMGCAC

Proposals to Change the

2015 IPC, IMC, IFGC, IRC-P, IRC-M, IPSDC, ISPSC and sections of other I-Codes that correlate with these codes

Copyright ©2014 International Code Council, Inc.

Revision Notes:

Revision O, March 1 thru April 5, 2014. Creation of original document. All Section numbers are for 2012 I-codes unless otherwise stated.

Revision 1, April 8, 2014. Items generated from April 7 through 8, 2014 physical meeting of the PMGCAC in Chicago, IL. Item No.s 1 thru 154.

Revision 2, May 7, 2014. Items generated from April 22, 2014 teleconference call meeting of the PMGCAC (Items 155 through 169).

Revision 3, May 28, 2014. Items generated from May 13, 2014 teleconference call meeting of the PMGCAC (Items 170 through 183).

Revision 4, June 12, 2014. Items generated from June 3, 2014 teleconference call meeting of the PMGCAC (Items 184 through 202). Added page numbers and copyright statement on each page.

Revision 5, August 11, 2014. Item 203 generated from August 5, 2014 teleconference call meeting. Add notes to Items 118, 154, 185, 38, 33 and 99 indicating that the items were dropped by the CAC during the meeting of August 5, 2014.

Revision 6, November 12, 2014. IMC, IRC-M, and IFGC items removed from document and put into another document for further development. Aqua highlighted items (numbers) in this document are those items that have been discussed by the CAC and have been developed into proposals for PMGCAC review. CTC items (and these were previously reviewed by the PMGCAC) were added to this document and were revised for language and formatting. These are numbered CTC 1, 2, etc. and have aqua highlighted item numbers for PMGCAC review. All other items dropped from this document until staff has more time to work on language on remaining items that had input from assigned members. Other items that were not discussed by the CAC and input was not received from anyone, are dropped from this document at this time.

Revision 7, November 19, 2014. Previously discussed plumbing code items removed.

Revision 8, December 1, 2014. Previously discussed items removed.

Revision 9, December 7, 2014. All proposals moving forward brought back into the document except IMC, IRC-Mechanical, Fuel Gas Code proposals. Organized in code section format and listed by code. Part TWOs kept with Part ONEs. Proposals completed and ready for final PMGCAC approval.

IMC, IRC-Mechanical, Fuel Gas Code in separate document.

IPC (along with related Part IIs for IRC)

CTC/PMG Proposal 2

Change the incorrect use of the term “accessible” in the IPC to “access”.

PMGCAC Agreed conceptually – Fred to review all locations and verify all were addressed. Somewhat related to Item #72 ? (Item 72 was dropped).

IPC

Part I - ADMIN

[A] IPC 107.1 General. The code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and such construction or work shall remain ~~accessible and exposed~~ to allow access for inspection purposes until the work is approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain ~~accessible and exposed~~ to allow access for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

[A] IPSDC 107.1.1 Concealed work. It shall be the duty of the permit applicant to cause the work to remain ~~accessible and exposed~~ to allow access for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Statement trailing the reason:

Need CTC blurb

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is CTC/PMG Proposal Item 2.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II - IPC

ACCESSIBLE. A site, building, facility or portion thereof that complies with Chapter 11 of the *International Building Code*.

Staff note: the above is the IBC definition. It will eventually be requested to be scoped to the IBC.

FIXTURE FITTING.

Supply fitting. A fitting that controls the volume, direction of flow or both, of water and is either attached to or ~~accessible~~ is accessed from a fixture, or is used with an open or atmospheric discharge.

(Portions of definition not shown are unchanged)

425.3.4 Access required. All parts in a flush tank shall be ~~accessible~~ provided with access for repair and replacement.

501.7 Pressure marking of storage tanks. Storage tanks and water heaters installed for domestic hot water shall have the maximum allowable working pressure clearly and indelibly stamped in the metal or marked on a plate welded thereto or otherwise permanently attached. Such markings shall be provided in ~~an accessible~~ a position with access on the outside of the tank so as to make inspection or reinspection readily possible.

604.11 Individual pressure balancing in-line valves for individual fixture fittings. Where individual pressure balancing in-line valves for individual fixture fittings are installed, such valves shall comply with ASSE 1066. Such valves shall be installed in ~~an accessible~~ location with access and shall not be utilized alone as a substitute for the balanced pressure, thermostatic or combination shower valves required in Section 424.3.

712.3.2 Sump pit. The sump pit shall be not less than 18 inches (457 mm) in diameter and not less than 24 inches (610 mm) in depth, unless otherwise *approved*. The pit shall be provided with access ~~accessible~~ and shall be located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, concrete, steel, plastic or other *approved* materials.

The pit bottom shall be solid and provide permanent support for the pump. The sump pit shall be fitted with a gastight removable cover that is installed flush with grade or floor level, or above grade or floor level. The cover shall be adequate to support anticipated loads in the area of use. The sump pit shall be vented in accordance with Chapter 9.

1103.4 Cleanout. ~~An accessible~~ cleanouts shall be installed on the building side of the trap and shall be provided with access.

1113.1.2 Sump pit. The sump pit shall be not less than 18 inches (457 mm) in diameter and not less than 24 inches (610 mm) in depth, unless otherwise *approved*. The pit shall be provided with access ~~accessible~~ and shall be located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, steel, plastic, cast iron, concrete or other *approved* material, with a removable cover adequate to support anticipated loads in the area of use. The pit floor shall be solid and provide permanent support for the pump.

1302.5 Filtration. Untreated water collected for reuse shall be filtered as required for the intended end use. Filters shall be ~~accessible~~ provided with access for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves immediately upstream and downstream to allow for isolation during maintenance.

1302.8.1 Bypass valve. One three-way diverter valve listed and labeled to NSF 50 or other approved device shall be installed on collection piping upstream of each storage tank, or drainfield, as applicable, to divert untreated on-site reuse sources to the sanitary sewer to allow servicing and inspection of the system. Bypass valves shall be installed downstream of fixture traps and vent connections. Bypass valves shall be marked to indicate the direction of flow, connection and storage tank or drainfield connection. Bypass valves shall be installed in ~~accessible~~ locations that are provided with access. Two shutoff valves shall not be installed to serve as a bypass valve.

1302.9 Pumping and control system. Mechanical equipment including pumps, valves and filters shall be provided with access ~~easily accessible that allows for~~ and ~~removable~~ in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the to enter the storage tank, to wash accumulated debris from the collection surface. The amount of rainfall to be diverted shall be field adjustable as necessary to minimize storage tank water contamination. The roof washer shall not rely on manually operated valves or devices, and shall operate automatically. Diverted rainwater shall not be drained to the roof surface, and shall be discharged in a manner consistent with the storm water runoff requirements of the jurisdiction. Roof washers shall be ~~accessible~~ provided with access for maintenance and service.

1303.8 Filtration. Collected rainwater shall be filtered as required for the intended end use. Filters shall be ~~accessible~~ provided with access for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves installed immediately upstream and downstream to allow for isolation during maintenance.

1303.12 Pumping and control system. Mechanical equipment including pumps, valves and filters shall be provided with access ~~easily accessible that allows for~~ and ~~removable~~ in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604.

Reason: The purpose of this proposal is consistency between terminologies in the codes. The term 'accessible' is defined in the IBC. This same definition should appear in the IPC . It is used as defined in Sections 110.2, 403.3.1, 403.4, 403.5, 404.1, 404.2, 404.3, 417.4.2 and 1002.4. This proposal had revised language for other locations.

The term 'Access (to)' is already defined in the IPC as follows:

[M] ACCESS (TO). That which enables a fixture, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction (see “Ready access”).

Statement trailing the reason:

Need CTC blurb

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is CTC/PMG Proposal Item 2.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

19. IPC (IRC? MAYBE) Section 202. Definitions - Create a definition for “clear-water waste”. [Staff note: “clear-water waste” used in Sections 709.4.1, 801.1, 802.1.3 & .5 (in titles only), 802.3.]
Alex

IPC

Add new text as follows:

CLEAR-WATER WASTE. A water discharge from equipment that is translucent and devoid of solids.

Reason:

There are frequent arguments within the plumbing industry about what constitutes clear-water waste. Some believe that such waste water must be as clear as potable water while others believe that is much too severe of definition. The existing code sections that use the term clear-water waste are provided below. From the context of where the term is used in the code, it should be obvious that clear-water might not necessarily be transparent (like looking through window glass) but on the other hand, the water might be a little murky because of *suspended* solids. In other words, *translucent*. The intent of including “devoid of solids” is to identify applications where large particles floated along by the water will immediately drop out of the water. How big of solids are of concern? The allowance in Section 802.3 for not having to provide a strainer for clear-water wastes give a hint about the solids size that doesn’t seem to be an issue.

Sections in the IPC that use the term “clear water waste:

709.4.1 Clear-water waste receptors. Where waste receptors such as floor drains, floor sinks and hub drains receive only clear-water waste from display cases, refrigerated display cases, ice bins, coolers and freezers, such receptors shall have a *drainage fixture unit* value of one-half.

801.1 Scope. This chapter shall govern matters concerning indirect waste piping and special wastes. This chapter shall further control matters concerning food-handling establishments, sterilizers, clear-water wastes, swimming pools, methods of providing air breaks or air gaps, and neutralizing devices for corrosive wastes.

802.1.3 Potable clear-water waste. Where devices and equipment, such as sterilizers and relief valves, discharge potable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an *air gap*.

802.1.5 Nonpotable clear-water waste. Where devices and equipment such as process tanks, filters, drips and boilers discharge nonpotable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an *air break* or an *air gap*.

802.2 Installation. Indirect waste piping shall discharge through an *air gap* or *air break* into a waste receptor. Waste receptors shall be trapped and vented and shall connect to the building drainage system. All indirect waste piping that exceeds 30 inches (762 mm) in developed length measured horizontally, or 54 inches (1372 mm) in total developed length, shall be trapped.

Exception: Where a waste receptor receives only clear-water waste and does not directly connect to a sanitary drainage system, the receptor shall not require a trap.

802.3 Waste receptors. For other than hub drains that receive only clear-water waste and standpipes, a removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall not be installed in concealed spaces. Waste receptors shall not be installed in plenums, crawl spaces, attics, interstitial spaces above ceilings and below floors. Ready access shall be provided to waste receptors.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 19.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

196. IPC (IRC? YES) ~~Section 606.1~~ CHAPTER 2. Location of “full open” valves. Need to have a “definition” of what the minimum opening of “full open valve” is. Section 606.3. Should it just say valves? Why specific to full open and shut off?

Accept: Shawn Alex

Staff note: John wanted to address cold water line being full size all the way to the WH, but there was no further direction on this.

Mike Cudahy suggested:

Full open valve: A valve whose closure member when adjusted to the fully open position, brings no restrictions to the valve's through-flow area.

Part I-IPC

Add new text as follows:

FULL-OPEN VALVE. A water control or shut off component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

Reason:

This phrase is used in various places in the code. In Section 606.1, there are a list of 7 locations where full-open valves are required. Many assumptions have been made as to what type of valve is intended. Many years ago before plastic water piping was installed, gate valves and ball valves were the only type that were available that were not globe valves. But many other types of valves for plastic piping are available that do not present a restriction when the valve is in the full-open position. This definition encompasses all type of valves that do not appreciably restrict the flow of water.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC 196.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II-IRC

Add new text as follows:

FULL-OPEN VALVE. A water control or shut off component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

Reason:

This phrase is used in several places in the code. In Sections P2903.9.1 and P2903.9.2, full-open valves are required. Many assumptions have been made as to what type of valve is intended. Many years ago before plastic water piping was installed, gate valves and ball valves were the only type that were available that were not globe valves. But many other

types of valves for plastic piping are available that do not present a restriction when the valve is in the full-open position. This definition encompasses all type of valves that do not appreciably restrict the flow of water.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC 196.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

85. IPC (IRC? NO) Chapter 2 SWIMMING POOL. Align definition with the intent of Public and Residential swimming pool definitions in the 2015 ISPS. Important: remove the 2 foot deep part of definition. This definition also needs to be changed in the IBC. A two part(?) proposal involving the BCAC. What are the implications in such a definition change?
Fred, Carvin

IPC

Delete without substitution:

~~**SWIMMING POOL.** Any structure, basin, chamber or tank containing an artificial body of water for swimming, diving or recreational bathing having a depth of 2 feet (610 mm) or more at any point.~~

Reason:

There is no need for such a specific definition for a swimming pool within the context of how the term is used in the few places in the IPC. Water from a swimming pool is handled in the same manner no matter how a swimming pool is actually defined. And this definition conflicts with the definition of a swimming pool according to the International Swimming Pool and Spa Code.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 85.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

144. IPC (IRC? NO) Section 303.4. The IRC was clarified with: required by the code to be in compliance with a referenced standard Correlation.
Maggie

Here's what the 2015 IRC looks like:

P2609.4 Third-party certification. Plumbing products and materials required by the code to be in compliance with a referenced standard shall be *listed* by a third-party certification agency as complying with the referenced standards. Products and materials shall be identified in accordance with Section P2609.1.

Here's the IPC section with the proposed change:

IPC**Revise as follows:**

303.4 Third-party certification. All plumbing products and materials required by the code to be in compliance with a referenced standard shall be listed by a third-party certification agency as complying with the referenced standards. Products and materials shall be identified in accordance with Section 303.1.

Reason:

For the 2015 IRC, a proposal was submitted and approved that changed the IRC to clarify that only those materials that are required to comply with a reference standard in the code, are to be third party certified. When the change for required listing of components came about for the 2012 code cycle for both the IRC and the IPC, it was not discovered that there was a potential for misinterpretation of this section until after the proposals for Group A codes (the IPC) were underway. The issue could only be addressed in the IRC.

The need for the rewording is this: Some interpreted this section that *all* plumbing products and materials had to be *listed*. That is, a third party agency had to evaluate every item used in the installation of a plumbing system. The problem is that a number of common items such as steel shield plates, thread seal tape, hanger strap, brackets for supporting pipes and many other similar items are not made to a standard that is referenced in the code. Listing such plumbing products to unknown criteria that is not indicated in the code is unnecessary and would only serve to increase the cost of construction without an improvement in the quality of construction. Where the code does find a need for materials to be of controlled quality, standards are brought into the code for those items and are thus required to be third party listed to prove that the manufacturer has complied with the standard.

This proposal is needed for consistency with the IRC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC 144.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

152. IPC (IRC? NO) 2015 item. Section 305.1. The 2015 IRC has new language for this section on Corrosion Protection. The IPC should be coordinated.

Dan

IPC

Revise as follows:

305.1 Protection against corrosion. ~~Pipes passing through concrete or cinder walls and floors or other corrosive material shall be protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from the lime and acid of concrete, cinder or other corrosive material. Sheathing or wrapping shall allow for movement including expansion and contraction of piping. The wall thickness of the material shall be not less than 0.025 inch (0.64 mm).~~ Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing material thickness shall be not less than 0.008 inch (8 mil) (0.203 mm) and shall be made of plastic. Where sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.

Reason:

The 2015 IRC has this new language for this section. The IPC should be coordinated that confusion does not occur. There are no new requirements being proposed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 152.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

143. IPC (IRC? ~~YES~~ NO) Section 305.6. The 2015 IRC reduced the threshold to 1 ¼ inch. The IPC needs to be the same. However, there needs to be clarity that this means *metal* studs as well (if the metal stud thickness is less than the strike plate thickness. Probably need to add some wording about metal tracks to get the ideas across.

Janine, John

Here's what the 2015 IRC looks like:

P2603.2.1 Protection against physical damage. In concealed locations, where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1-1/4 inches (31.8 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

Here's the proposed change:

IPC

Revise as follows:

305.6 Protection against physical damage. In concealed locations where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than ~~4 1/2 inches (38 mm)~~ 1-1/4 inches (31.8 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

Reason:

For the 2015 IRC, a proposal was submitted and approved that changed this dimension to match what the National Electrical Code has for a limitation for consistency with that code. It is difficult to install a ½ nominal size tube in 2 x 4 wall construction in such a manner that a steel shield plate is not required on at least one side of the wall. Reducing the dimension slightly, allows such installations with the need for the plates on either side of the wall.

This proposal is needed for consistency with the IRC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 143.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

120. IPC (IRC? YES) Section 308.6. This requirement has recently “caught” several contractors by surprise. I think it could be worded better by starting off with “For piping 4 inches and larger....”. Then there needs to be some better clarification as to what constitutes a “rigid support sway brace” and in what orientation is the “sway” supposed to be prevented?
Alex

Part I - IPC

Revise as follows:

308.6 Sway bracing. ~~Rigid support sway bracing shall be provided at changes in direction greater than 45 degrees (0.79 rad) For~~ Where horizontal pipes sizes 4 inches (102 mm) and larger convey drainage or waste, and where a pipe fitting changes the flow direction greater than 45 degrees (0.79 rad), rigid bracing or other rigid support arrangements shall be installed to resist movement of the upstream pipe in a direction opposite the pipe flow. A change of flow direction into a vertical pipe shall not require the upstream pipe to be braced.

Reason:

The requirements of this section are vague enough such that several contractors working large projects have been “caught” mid-project not knowing exactly what the code was requiring. This section is about preventing undue stress on the joints in a drainage piping system. It is known that drainage piping systems can be moved about by “slugs” of waste hitting 90 degree bends in the piping where the pipe downstream is “horizontal”. Where the pipe downstream of the elbow is no longer “horizontal”, that is, 45 degrees or greater from the horizontal plane, the waste is falling and is less likely to impact the inside of the elbow and therefore, not impart significant forces that would cause the piping system to move.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 120.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II - IRC

Revise as follows:

P2605.1 General. Piping shall be supported in accordance with the following:

1. Piping shall be supported to ensure alignment and prevent sagging, and allow movement associated with the expansion and contraction of the piping system.
2. Piping in the ground shall be laid on a firm bed for its entire length, except where support is otherwise provided.
3. Hangers and anchors shall be of sufficient strength to maintain their proportional share of the weight of pipe and contents and of sufficient width to prevent distortion to the pipe. Hangers and strapping shall be of *approved* material that will not promote galvanic action. ~~Rigid support sway bracing shall be provided at changes in direction greater than 45 degrees (0.79 rad) for pipe sizes 4 inches (102 mm) and larger.~~

4. Where horizontal pipes 4 inches (102 mm) and larger convey drainage or waste, and where a pipe fitting changes the flow direction greater than 45 degrees (0.79 rad), rigid bracing or other rigid support arrangements shall be installed to resist movement of the upstream pipe in a direction opposite the pipe flow. A change of flow direction into a vertical pipe shall not require the upstream pipe to be braced.

~~5.~~ 4. Piping shall be supported at distances not to exceed those indicated in Table P2605.1.

Reason:

The requirements of this section are vague enough such that several contractors working large projects (under the IPC) have been “caught” mid-project not knowing exactly what the code was requiring. Certainly, the same situation could occur for contractors working on large IRC buildings. The same clarification proposal has been proposed for the IPC so for coordination, it is proposed to this code.

This section is about preventing undue stress on the joints in a drainage piping system. It is known that drainage piping systems can be moved about by “slugs” of waste hitting 90 degree bends in the piping where the pipe downstream is “horizontal”. Where the pipe downstream of the elbow is no longer “horizontal”, that is, 45 degrees or greater from the horizontal plane, the waste is falling and is less likely to impact the inside of the elbow and therefore, not impart significant forces that would cause the piping system to move.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 120.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

36. IPC (IRC? YES) New Section in Chapter 3. Should there be a section about support of thermal expansion tanks?

Bill

Bill provided:

When installed in a horizontal position all thermal expansion tanks shall be supported as to not allow damage to piping or fittings.

When installed in a vertical position thermal expansion tanks five gallons and greater shall be supported as to not allow damage to piping or fittings.

Part I- IPC**Add new text as follows:**

308.10 Thermal expansion tanks. A thermal expansion tank shall not be supported by the piping that connects to the thermal expansion tank.

Reason:

Too often, inspectors see thermal expansion tanks hanging on the piping that the tank connects to. Even the smallest size of tank could weigh up to 16 pounds when full of water. where these tanks are installed at the end of a horizontal rigid pipe from the side outlet of a tee, there is significant moment being applied to the piping. Larger tanks or longer pipes result in bigger moments. And perhaps a significant "moment" when the pipe cracks or breaks off. Although the this proposed section started off trying to identify where it was OK to support the tank from the piping, the realization was made that it would be easiest to just not have the piping support the tank. Strap the tank to the building structure or the water heater tank, or place the tank on top of the water heater where it will not be disturbed (and hopefully not exposed to heat from a nearby flue of a gas water heater.)

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 36.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II- IRC

Add new text as follows:

P2605.2 Thermal expansion tanks. A thermal expansion tank shall not be supported by the piping that connects to the thermal expansion tank.

Reason:

Too often, inspectors see thermal expansion tanks hanging on the piping that the tank connects to. Even the smallest size of tank could weigh up to 16 pounds when full of water. where these tanks are installed at the end of a horizontal rigid pipe from the side outlet of a tee, there is significant moment being applied to the piping. Larger tanks or longer pipes result in bigger moments. And perhaps a significant "moment" when the pipe cracks or breaks off. Although the this proposed section started off trying to identify where it was OK to support the tank from the piping, the realization was made that it would be easiest to just not have the piping support the tank. Strap the tank to the building structure or the water heater tank, or place the tank on top of the water heater where it will not be disturbed (and hopefully not exposed to heat from a nearby flue of a gas water heater.)

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 36.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

16. IPC (IRC? YES). Section 312.2. Drainage testing. Change the head of water height to 5 feet to match the IRC or change the IRC back to 10 feet. If the height stays at 5 feet the air test pressure needs to be equivalent to the water test pressure.

Seek consistency

Janine

Refer to #170 and #151. CAC says no for changing air pressure test value.

IPC

Revise as follows:

312.2 Drainage and vent water test. A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a ~~10-foot (3048 mm)~~ 5-foot (1524 mm) head of water. In testing successive sections, at least the upper ~~10-foot (3048 mm)~~ 5-foot (1524 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost ~~10-foot (3048 mm)~~ 5-foot (1524 mm) of the system, shall have been submitted to a test of less than a ~~10-foot (3048 mm)~~ 5-foot (1524 mm) head of water. This pressure shall be held for not less than 15 minutes. The system shall then be tight at all points.

Reason:

In the last cycle, the IRC was changed to reduce the DWV water test pressure from 10 feet of head to 5 feet of head. This change to the IPC is to coordinate the IPC with the IRC. There was not a companion proposal in the last cycle for changing the IPC. This is the first time that this is being proposed for the IPC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 16.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

87. IPC (IRC? NO) Table 403.1. Factory and industrial row AND Storage row at showers column indicates: “(see Section 411)”. Section 411 doesn’t say anything about requirements. This sometime confuses people into thinking that an emergency shower is required in factory and industrial occupancies AND storage occupancies. That is not the intent. The “(see Section 411)” should be changed to point to a new footnote in the table indicating something like “Emergency showers required by the owner or occupant of the factory or industrial operation OR storage operation shall be in accordance with Section 411.

Mike, Shawn

Shawn provided:

Item #87 emergency shower – I propose that the we either strike the “see section 411” from table 403.1 No. 4 - Factory and industrial occupancy classification and No. 8 – Storage classification. I agree that with the language in these sections it implies that something is required as this table is titled as minimum required plumbing fixtures however section 411 does not require these fixtures in these specific classifications which leads to confusion. By striking this language from the areas within the table it makes it clear that emergency showers are not required by the plumbing code.

Revise as follows:

**TABLE 403.1 ([P] 2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a
(See Sections 403.1.1 and 403. 2)**

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		(see Section 411) (show a long dash in the empty spot)	1 per 400	1 service sink
8	Storage	S-1 S-2	Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100		1 per 100		See Section 411 (show a long dash in the empty spot)	1 per 1,000	1 service sink

Reason:

This proposal resolves long standing confusion about what Table 403.1 requires for Showers in Factory and Storage facilities. The Table never intended to require showers but was only directing readers to the safety shower section (Section 411) in case the building designer was going to use safety showers in the design of the building. The note has no purpose in this table. Such notes could be put in the table for every other type of fixture that doesn't indicate a ratio or quantity. The note needs removed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 87.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

191. IPC (IRC? NO) Section 401.1. Section 403.1 was revised for 2015 to redirect the reader to the *use* of a building rather than its occupancy for determining the fixture count. Section 401.1 refers to occupancy, not use. This needs to be corrected. Table 403.1. The occupancy column really throws people off and should be removed now that Section 403.1 directs people to the *use* of the building or space. Maybe add FOR REFERENCE below the column header CLASSIFICATION for clarity?

IPC

Revise as follows:

TABLE 403.1 (IBC Table [P] 2902.1)

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a
 (See Sections 403.1.1 and 403. 2)

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			
1	Assembly ^d	A-1 ^d	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		A-2 ^d	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		A-3 ^d	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink

			Places of worship and other religious services.	1 per 150	1 per 75	1 per 200	—	1 per 1,000	1 service sink
--	--	--	---	-----------	----------	-----------	---	-------------	----------------

NO.	CLASSIFICATION	OCCUPANCY ^Y	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			
1 (cont.)	Assembly ^d	A-4	Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink ^e

3	Educational	E	Educational facilities	1 per 50	1 per 50	—	1 per 100	1 service sink
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100	1 per 100	(see Section 411)	1 per 400	1 service sink
5	Institutional	I-1	Residential care	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink
		I-2	Hospitals, ambulatory nursing home care recipient	1 per room ^c	1 per room ^c	1 per 15	1 per 100	1 service sink per floor
			Employees, other than residential care ^b	1 per 25	1 per 35	—	1 per 100	—
			Visitors, other than residential care	1 per 75	1 per 100	—	1 per 500	—
		I-3	Prisons ^b	1 per cell	1 per cell	1 per 15	1 per 100	1 service sink
			Reformatories, detention centers, and correctional centers ^b	1 per 15	1 per 15	1 per 15	1 per 100	1 service sink
			Employees ^b	1 per 25	1 per 35	—	1 per 100	—
I-4	Adult day care and child day care	1 per 15	1 per 15	1	1 per 100	1 service sink		

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink ^e
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		R-2	Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-2	Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		R-3	Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink

		R-3	One- and two-family dwellings and lodging houses with five or fewer guest rooms	1 per dwelling unit	1 per dwelling unit	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
		R-4	Congregate living facilities with 16 or fewer persons	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink
8	Storage	S-1 S-2	Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100	1 per 100	See Section 411	1 per 1,000	1 service sink

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.
- b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient sleeping unit and with provisions for privacy.
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- e. For business and mercantile **occupancies classifications** with an occupant load of 15 or fewer, service sinks shall not be required.

Reason:

Section 403.1 was revised for the 2015 IPC to direct the reader to the *use* of a building rather than its IBC occupancy classification (Group) for determining the number of plumbing fixtures. The occupancy column in Table 403.1 is now really confusing as Section 403.1 says to use the Description column but this Occupancy column implies that the IBC classification is to be used. This proposal removes the occupancy column for clarity and coordination with what Section 403.1 states.

Table 403.1 will still retain the classification column, although that column doesn't seem to add any clarification to the table as the IPC doesn't speak of "classifications" for various uses. However, as Table 403.1 is reprinted in the IBC (as Table [P] 2902.1), the classification column might incorrectly lead IBC readers to assume that the IBC occupancy classification (Group) has something to do with selection of an appropriate row for plumbing fixture requirements. IBC Section [P] 2902.1 is identical to Section 403.1 in the IPC but if the reader neglects reading the IBC section and jumps directly to the table, the existence of classification column could cause a misunderstanding.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 191.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

90. IPC (IRC? NO) Section 403.3. The word "in" in the first sentence should be changed to "for" because there is confusion as to what the section requires in an open mall (for example, a strip center). This section does not have the intent of specifying *where* the toilet facilities are provided, only that toilet facilities must be provided. Section 403.3.1 could use a tuneup to make the location intent clear.

Jim

[Refer to Item #119 and #92](#)

IPC

Revise as follows:

403.3 (IBC [P] 2902.3) Required public toilet facilities. Customers, patrons and visitors to structures and tenant spaces intended for *public* utilization shall be provided with *public* toilet facilities. ~~in structures and tenant spaces intended for public utilization.~~ Employees associated with structures and tenant spaces shall be provided with toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for

all users. ~~Employees shall be provided with toilet facilities in all occupancies.~~ Employee toilet facilities shall be either separate or combined employee and *public* toilet facilities.

Exceptions: *Public* toilet facilities shall not be required ~~in~~ for:

1. Open or enclosed parking garages where there are no parking attendants.
2. Structures and tenant spaces intended for quick transactions, including take out, pick up and drop off, having a public access area less than or equal to 300 square feet (28m²).

Reason:

This section is being reorganized for clarity of the intent of the section which simply is to require public and employee toilet facilities, as applicable, for buildings and tenant spaces. The location of the required toilet facilities is covered by Sections 403.3.1 through 403.3.4. This reorganization eliminates the word "in" in the first sentence of the existing language and in the Exceptions lead-in sentence because this simple term has frequently been interpreted to mean that toilet facilities had to be *within* the building or tenant space that created the plumbing fixture demand. However, this interpretation is contrary to many past and current practices of toilet facilities being located in buildings other than the building generating the requirement for plumbing fixtures. Examples are:

- An amusement park with numerous buildings served by several centralized toilet facility buildings.
- An open mall building having multiple tenant spaces, served by one central toilet facility.
- A covered mall building having numerous tenant spaces, served by several centralized toilet facilities.
- A factory outlet "mall" area with several strip buildings where the toilet facilities to serve all of the buildings are located in only one of the strip buildings.

Note that Section 403.3.1 states "Access to the required facilities shall be from within the building or from the exterior of the building."

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 90.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

98. IPC (IRC? NO) Section 403.4.2. It has been long standing practice in the Codes to group business and mercantile occupancies in regards to plumbing fixtures. It was not clear why the number was changed from 50 to 100 in the 2012 IPC for mercantile with the IBC occupant load remaining the same. These revisions are made to allow for small business occupancies to provide a single toilet facility for up to 50 occupants and reduce the number to the previous value of 50 for mercantile occupancies.

Mike, David

Staff Note: Information on previously-approved code change proposal follows:

P25–09/10

403.2 (IBC [P]2902.2)

Proponent: Cindy Harvey, Kephart Community-Planning-Architecture representing herself
Revise as follows:

403.2 (IBC [P]2902.2) Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or less.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is ~~50~~ 100 or less.

Reason: In recent years, the industry has seen an increase in mixed-use buildings that are predominantly residential in use with a small, secondary retail component. Often, the use for this retail space is developed into neighborhood retail that is boutique in nature and classified as a Group M occupancy. The optimum size and area of the retail bays are 30 feet x 80 feet and 2,400 sf, respectively. Refer to Table IV-4A following this reason statement for a U.S. Department of Labor, Bureau of Labor Statistics summary of small retail space sizes and note the hand marked rows. Based on IBC Table 1004.1.1, and 30 sf per occupant, this 2,400 sf space at grade would have an occupant load of 80 persons. Consequently, the space does not qualify for exception number 3 of IPC Section 403.5 (IBC Section [P] 2902.2) that allows for one toilet facility to serve up to 50 occupants and therefore, the space requires separate toilet facilities for male and females. This places an undue burden on these smaller retail occupancies and often leads to the manipulation of occupancy calculation for the purpose of avoiding the additional toilet facility. Because an M use requires a second exit where the occupant load exceeds 49, the manipulation of occupant load subsequently adversely impacts the egress requirements for the space leading to compromised life/safety for the occupants.

An alternative approach is the exception in IBC Section 1004.1.1 which allows the building official to approve a smaller occupant load based on the actual number of occupants versus the design occupant load. In the example cited, it would be unrealistic to expect 80 occupants in a florist shop, dry cleaners, jewelry store, or liquor store of 2400 sf. A burden then falls on the building official to review these on a case-by-case basis for what is considered by many to be an excessive and unnecessary number of toilet rooms. Note that in IPC Table 403.1 (IBC Table [P]2902.1), M use, one water closet can serve up to 500 occupants and one lavatory can serve up to 750 occupants.

A cleaner way of resolving this disconnect is to increase the occupant load threshold in exception no. 3 to 100 persons. This proposed modification relieves the undue burden placed on the small retail space having an area within the range of 1500 sf and 3000 sf. Two accessible single user toilet facilities in a 1500 sf space occupies approximately 80 sf which is more than 5% of the total space. An increase in the occupant load threshold in exception 3 of this section would allow for the industry norm in boutique retail bay size to be accommodated with one single user toilet facility. Given that it is unlikely or at least rare that these small retail spaces would be occupied by the number persons equal to the design occupant load and that IPC Table 403.1 (IBC Table [P]2902.1) indicates that 2 water closets can serve up to 1000 persons; the provision of a single toilet facility appears to be more than adequate for the size of space and function that the proposed occupant load threshold increase would allow. The area of the space that the proposed occupant load threshold accommodates (3000 sf) would be such that neither a 500 or 300 ft travel distance limitation as required IPC Section 403.3 (IBC Section [P] 2902.3) would ever be exceeded because of the contrived dimensions this would necessitate. And finally, this change would significantly differentiate mercantile occupancy plumbing requirements (which are based primarily on convenience) from the egress requirements which are based on life/safety needs.

Table IV-4A: Characteristics of Selected Store Types Found in Neighborhood Shopping Centers (PTA Employees)

Store Type	Median Household Expenditure	Sales Per Square Foot GLA	Median Store Size (Sq. Ft.)	Threshold Household Support	Minimum Expenditure Support
Hardware and Building Materials					
Building Materials and Supplies	\$411	\$228.43	65,000	36,110	\$14,847,950
Hardware	\$293	\$166.59	20,000	11,364	\$3,331,800
Food Stores					
Grocery/Convenience	\$5,087	\$371.39	10,000	730	\$3,713,900
Automotive					
Tire, Battery and Accessory	\$506	\$159.81	6,000	1,894	\$958,860
Apparel and Accessory					
Men's Clothing	\$447	\$203.31	15,000	6,823	\$3,049,650
Women's Clothing	\$626	\$177.46	20,000	7,672	\$3,549,200
Children's Clothing	\$415	\$246.71	15,000	8,808	\$3,700,650
Shoes	\$391	\$241.66	5,000	3,091	\$1,207,800
Other Apparel & Accessories	\$82	\$225.00	5,000	13,798	\$1,125,000
Furniture and Equipment					
Furniture	\$489	\$215.26	20,000	8,800	\$4,305,900
Home Furnishings & Accessories	\$820	\$189.56	25,000	5,164	\$4,234,900
Household Appliances	\$354	\$237.49	15,000	10,068	\$3,562,350
Radio, Television, Stereo, Computer	\$645	\$297.28	5,000	2,306	\$1,488,400
CDs & Music	\$108	\$197.21	4,500	8,241	\$887,415
Eating and Drinking Places					
Restaurant	\$2,612	\$298.72	3,500	400	\$1,045,520
Drug and Proprietary					
Drug / Cosmetics	\$592	\$365.73	12,000	7,130	\$4,408,760
Other Retail and Personal Services					
Liquor / Wine & Spirits	\$428	\$363.50	2,956	2,427	\$1,038,156
Sporting Goods & Bicycle	\$349	\$212.47	6,000	3,652	\$1,274,820
Books & Stationery	\$343	\$138.03	4,500	7,811	\$621,135
Jewelry	\$138	\$418.32	1,200	3,366	\$301,944
Hobby & Specialty	\$322	\$187.72	5,000	7,723	\$938,600
Florist	\$75	\$169.80	1,500	3,379	\$254,700
Miscellaneous Retail	\$2,080	\$201.00	2,000	372	\$402,000
DVD / Video Tape Rental	\$68	\$107.58	6,000	9,536	\$645,480
Personal Care Products & Services	\$457	\$147.29	1,200	387	\$178,748
Dry Cleaner / Coin Laundry	\$166	\$143.24	1,600	1,379	\$229,394
Misc. Personal Services	\$794	\$158.59	1,200	252	\$190,308
Total Retail	\$37,878				

Source: U.S. Department of Labor, Bureau of Labor Statistics, and THK Associates, Inc.

Cost Impact: The code change proposal will not increase the cost of construction.

IPC

Revise as follows:

403.2 (IBC [P] 2902.2) Separate Facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile and business occupancies in which the maximum occupant load is 50 ~~400~~ or fewer.

Reason:

It has been long standing practice in the codes to group business and mercantile occupancies in regards to plumbing fixtures. It was not clear why the number was changed from 50 to 100 in the 2012 IPC for mercantile with the IBC

occupant load remaining the same. These revisions are made to allow for small business occupancies to provide a single toilet facility for up to 50 occupants and reduce the number to the previous value of 50 for mercantile occupancies.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 98.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, for mercantile occupancies having an occupant load of greater than 50 and less than 101, separate toilet facilities (for male and female) will be required whereas in the current code that range does not require separate facilities. Extra space and duplicate fixtures, piping and associated materials and labor will increase the cost of construction for those mercantile establishments in that range.

CTC/PMG Proposal 1

CTC's Suggestion was:

IPC 403.2.1 Family or assisted-use toilet facilities serving as separate facilities. Where a building or tenant space requires a separate toilet facility for each sex and each toilet facility is required to have only one water closet, two family or assisted-use toilet facilities shall be permitted to serve as the required separate facilities. Family or assisted use toilet facilities shall not be required to be identified for exclusive use by either sex as required by Section 403.4.

Exception: Where two family-or-assisted-use toilet rooms are clustered at a single location, not less than one toilet room shall be accessible.

PMGCAC said instead, to make a new section 404.1.1 to address clustering....

IPC

Add new text as follows:

404.1.1 Clustered family-or-assisted-use toilet facilities. Where multiple family-or-assisted-use toilet facilities are clustered at a single location, not less than 50 percent of the cluster of toilet facilities shall be required to be accessible.

Reason: IBC Section 1109.2 Exception 2 allow for single occupant toilet rooms that are clustered and of the same type to only have 50% constructed accessible. Since the family or assisted-use toilet room requirements basically describe an accessible single occupant bathroom, the intent of the exception is to allow for the same exception to be applicable when someone uses the allowance in IPC Section 404.2.2. This would be consistent with the 2010 ADA Standard for Accessible Design.

Statement trailing the reason:

Need to include the CTC blurb

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is CTC/PMG Proposal Item 1.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

140. IPC (IRC? NO) Sections 405.3.1 and 403.3.5. There needs to be a slight modification concerning the spacing between fixtures. Where partitions are involved, the spacing cannot be 30” between fixtures. We have heard about contractors who have been caught off guard by this, not knowing about the thickness of a partition (it is not there “in the rough”), only to find out at final, they have a violation. These sections could be word much better in that respect. Space between partition panels not less than 30 " in 405.3.5. To "inside" of partition. Current first sentence after 'or' is confusing people

John, Brent

IPC

Revises as follows:

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction. Where partitions or other obstructions do not separate adjacent fixtures, fixtures shall not be set or closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be not less than a 21-inch (533 mm) clearance in front of ~~the~~ a water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floor- mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall- hung water closets.

405.3.5 (IBC [P] 1210.3.2) Urinal partitions. Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The width between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.
2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

Reason:

Where partitions are required between adjacent fixtures, the spacing cannot be 30 inches center-to-center between fixtures. We have heard about contractors who have been caught off guard by this, not knowing about the thickness of a partition (because those items are typical not there "in the rough"), only to find out at final inspection that they have a violation because someone later came in and installed the required partitions. This happens frequently with multiple urinal layouts. The added text clarifies that the width between partitions must be 30 inches and the spacing between adjacent fixtures is only applicable where partitions will not be installed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 140.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

1. IPC (IRC? YES). Sections 405.8 & 1002.2. Slip joints. Change the wording for slip joint locations to include slip joints in the waste piping *from the fixture outlet* to the trap outlet (and in between).

Alex

Second sentence of 405.8 needs reworked. 1002.2 about slip joints seems to be redundant? Or maybe the other way around? In both places to cover fixture tailpieces...YES.

PART I – IPC

Revise as follows:

405.8 Slip joint connections. ~~Slip joints connections shall be made with an approved elastomeric gasket and shall only be installed for tubular waste piping from the fixture outlet of a fixture to the trap outlet and within the trap seal through a tubular waste trap and to a slip joint connection of tubular waste to the drainage piping. Fixtures with concealed slip joint connections shall be provided with an access panel or utility space not less than 12 inches (305mm) in its smallest dimension or other approved arrangement so as to provide access to the slip joint connections for inspection and repair. Slip joint connections shall be made with an approved sealing gasket. Slip joint connections shall be provided with access. Such access shall provide an opening that is not less than 12 inches (305mm) in its smallest dimension.~~

1002.2 Design of traps. Fixture traps shall be self-scouring. Fixture traps shall not have interior partitions, except where such traps are integral with the fixture or where such traps are constructed of an *approved* material that is resistant to corrosion and degradation. ~~Traps having slip joints connections shall comply with Section 405.8. be made with an approved elastomeric gasket and shall be installed only on the trap inlet, trap outlet and within the trap seal.~~

Reason:

From the existing wording of this section, some inspectors have the misconception that the code doesn't allow slip joints to be installed upstream of a trap inlet nor at the connection of the trap "arm" to the drainage piping. For example, consider a typical lavatory where the drainage piping in the wall was roughed in at a fairly low elevation and the tailpiece from the fixture outlet is not very long. Normally, a slip joint end, tubular waste extension piece is installed to make the connection to the end of the fixture tailpiece to the inlet of the trap. However, if the existing wording is read literally, the code doesn't allow a slip joint above the trap inlet: *only at the trap inlet, outlet and within the trap seal*. Although it would be ideal to have the rough-in elevation of the drain in the wall "coordinate" with the elevation of the fixture outlet tailpiece piece, it is not realistic to make this happen every time. Sometimes the rough-in installer doesn't know the height of the cabinetry for the lavatory or the model of the drain assembly because neither have been chosen yet by the builder designer.

The revised wording allows for what is a common practice for fixture installation in the plumbing industry.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 1.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

PART II – IRC

Revise as follows:

**SECTION P2704
SLIP JOINT ACCESS TO CONNECTIONS**

P2704.1 General Slip joints. Slip joints connections shall be made with an approved elastomeric gasket and shall only be installed for tubular waste piping from the fixture outlet of a fixture to the trap outlet and within the trap seal through a tubular waste trap and to a slip joint connection of tubular waste to the drainage piping. Fixtures with concealed slip joint connections shall be provided with an access panel or utility space not less than 12 inches (305mm) in its smallest dimension or other approved arrangement so as to provide access to the slip joint connections for inspection and repair. Slip joint connections shall be made with an approved sealing gasket. Slip joint connections shall be accessible. Such access shall provide an opening that is not less than 12 inches (305mm) in its smallest dimension.

P3201.1 Design of traps. Traps shall be of standard design, shall have smooth uniform internal waterways, shall be self-cleaning and shall not have interior partitions except where integral with the fixture. Traps shall be constructed of lead, cast iron, copper or copper alloy or approved plastic. Copper or copper alloy traps shall be not less than No. 20 gage (0.8 mm) thickness. Solid connections, slip joints and couplings shall be permitted to be used on the trap inlet, trap outlet, or within the trap seal. Traps having slip joints connections shall be accessible comply with Section P2704.1.

Reason:

From the existing wording of this section, some inspectors have the misconception that the code doesn't allow slip joints to be installed upstream of a trap inlet nor at the connection of the trap "arm" to the drainage piping. For example, consider a typical lavatory where the drainage piping in the wall was roughed in at a fairly low elevation and the tailpiece from the fixture outlet is not very long. Normally, a slip joint end, tubular waste extension piece is installed to make the connection to the end of the fixture tailpiece to the inlet of the trap. However, if the existing wording is read literally, the code doesn't allow a slip joint above the trap inlet: *only at the trap inlet, outlet and within the trap seal*. Although it would be ideal to have the rough-in elevation of the drain in the wall "coordinate" with the elevation of the fixture outlet tailpiece piece, it is not realistic to make this happen every time. Sometimes the rough-in installer doesn't know the height of the cabinetry for the lavatory or the model of the drain assembly because neither have been chosen yet by the builder designer.

The revised wording allows for what is a common practice for fixture installation in the plumbing industry.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 1.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

97. IPC (IRC? NO) Table 403.4 410.2. Drinking fountains have seen decreased usage with the popularity of bottled water. An across the board reduction limiting the need to occupant loads over 50 has been in effect for the past two code cycles in Phoenix without any complaints. In addition, the

need for service sinks has decreased with the use of carpet and dry cleaning products. Cost Impact: Savings from reduced number of required fixtures.

David's Suggestion:

Table 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a

(See Sections 403.2 and 403.3)

Delete all service sink requirements from Table 403.1

f. Drinking fountains are not required for an occupant load of ~~15~~ 50 or fewer.

~~g. For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.~~

Leaving the decision to the building owner is suggested.

John, Mike, David.

→PROPOSAL 97A was removed by CAC

Go forward with PROPOSAL 97B:

Staff note: for 2015, the drinking fountain threshold was moved from the Table 403.1 footnotes to it's own section. Section 410.2:

IPC

Revise as follows:

410.2 (IBC 2902.6) Small occupancies. Drinking fountains shall not be required for an occupant load of ~~15~~ 50 or fewer.

Reason:

As many should know, the climate in Phoenix, Arizona is HOT and DRY. The following Wikipedia quote sums up the general facts:

Phoenix has a subtropical [desert climate](#), typical of the Sonoran Desert in which it lies. Phoenix has extremely hot summers and warm winters. The average summer high temperatures are some of the hottest of any major city in the United States, and approach those of cities such as [Riyadh](#) and [Baghdad](#).^[60] On average (1981–2010), there are 107 days annually with a high of at least 100 °F (38 °C),^[61] including most days from late May through early October. Highs top 110 °F (43 °C) an average of 18 days during the year^[62] Every day from June 10 through August 24, 1993, the temperature in Phoenix reached 100 °F or more, the longest continuous number of days (76) in the city's history. Officially, the number of days with a high of at least 100 °F has historically ranged from 48 in 1913 to 143 in 1989. For

comparison, since 1870, New York City has seen a temperature of 100 degrees or more a total of only 59 days.^[63] On June 26, 1990, the temperature reached an all-time recorded high of 122 °F (50 °C).^[64]

60. "Collier Center". Collier Center of Phoenix. Retrieved September 12, 2012.

61. "NowData - NOAA Online Weather Data". National Oceanic and Atmospheric Administration. Retrieved 2011-12-18.

62. "Climatology of heat in the southwest". National Weather Service. Retrieved January 6, 2009.

63. "NWS Upton, NY". Retrieved 2014-05-24

64. Dorish, Joe. "10 All-Time Hottest Weather Temperature Days in Phoenix". Knoji. Retrieved February 5, 2014.

Another source indicates the average relative humidity is second to the lowest in the nation with Las Vegas having the lowest. Here's a typical year for Morning (M) and Afternoon (A) Relative Humidity in Phoenix:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A
67 33	60 27	57 24	43 16	35 13	31 12	44 20	51 23	49 23	50 22	57 27	67 34

Our mouth is parched just thinking about those conditions.

The City of Phoenix has always believed that the threshold of 15 occupants for not requiring drinking fountains was far too low such that it created a significant waste of building space for smaller buildings and tenant spaces. Phoenix made the decision two code cycles ago to raise the threshold to 50. In the 8 plus years of this new threshold in place for new and renovated buildings in Phoenix, there have not been any complaints about not having drinking fountains in smaller establishments. Not one.

It is believed that the low threshold is unwarranted for the remainder of the United States as those areas are not nearly as hot or dry as Phoenix.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This PMGCAC Item 97.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

134. IPC (IRC? NO) Section [B] 419.3. It would seem that this section has nothing to do with plumbing and everything to do with the interior environment of toilet rooms (IBC Section 1210). Perhaps this section needed to be removed from the IPC? IBC Section 1210 doesn't directly address

that the floor, 2 feet out from the outermost lip of the urinal needs to be waterproof. Also, the IBC states “smooth, hard, non-absorbent” but the IPC says “smooth, readily cleanable, non-absorbent”. What is hard? What is smooth? What is readily cleanable? These questions continue to come up every year. For instance, is an epoxy painted gypsum wall OK? How about painted a CMU wall? Is a tile floor with grout lines OK? How about a wood partition with a polyurethane coating (gaps between panels, etc). Is a painted concrete floor OK? Perhaps this IPC section should be replaced with a pointer to IBC Section 1210 so that coordination hopefully occurs between the selection of the urinal and the provided “zone of waterproofing”? Also, for WCs the issue is the same. What type of walls and floors are allowable around WCs?

[Staff note: BCAC doesn't have to be involved if PMGCAC wants to simply delete the section!!

Janine

IPC

Delete without substitution:

~~[B] 419.3 Surrounding material. Wall and floor space to a point 2 feet (610 mm) in front of a urinal lip and 4 feet (1219 mm) above the floor and at least 2 feet (610 mm) to each side of the urinal shall be waterproofed with a smooth, readily cleanable, nonabsorbent material.~~

Reason:

IBC Section 1210 already covers wall and floor materials in toilet facilities. There is no longer a need for this information to be in the IPC as the IPC does not have control of the section (as indicated by the [B] prior to the section number). Many code editions ago, this section was only in the IPC. However, it was later placed in the IBC as the IBC is concerned with the construction of interior spaces, toilet facilities being an interior space.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 134.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

51. IPC (IRC? YES) Section 424.5. Add the sentence, “Access to enable removal for replacement and temperature adjustments shall be provided to the water tempering device.”

Janine

Part I-IPC

Revise as follows:

424.5 Bathtub and whirlpool bathtub valves. The *hot water* supplied to bathtubs and whirlpool bathtubs shall be limited to a maximum temperature of 120°F (49°C) by a water-temperature limiting device that conforms to ASSE 1070 or CSA B125.3, except where such protection is otherwise provided by a combination tub/shower valve in accordance with Section 424.3. Access shall be provided to the ASSE 1070 or CSA B125.3 devices. Such access shall be large enough to enable removal of the device for replacement and for temperature adjustments.

Reason:

Designers and installers don't think about these devices needing periodic adjustment, cleaning or replacement. Although it should be obvious that these devices should not be covered up without any way to get to them, this happens frequently, because, “the code doesn't make me do otherwise”. This is loophole that needs to be eliminated so that these safety devices can be accessed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 51.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, these valves might have to be located elsewhere where access can be made to the valve. This might involve a little more piping and labor. Or, at a minimum, an access panel might have to be installed in a wall or ceiling. As access wasn't required before, this extra work to provide access might increase the cost of construction in some situations.

Part II-IRC

Revise as follows:

P2713.3 Bathtub and whirlpool bathtub valves. Hot water supplied to bathtubs and whirlpool bathtubs shall be limited to a temperature of not greater than 120°F (49°C) by a water-temperature limiting device that conforms to ASSE 1070 or CSA B125.3, except where such protection is otherwise provided by a combination tub/shower valve in accordance with Section P2708.4. These ASSE 1070 or CSA B125.3 devices shall be accessible. Such access shall be large enough to enable removal of the device for replacement and for temperature adjustments.

Reason:

Designers and installers don't think about these devices needing periodic adjustment, cleaning or replacement. Although it should be obvious that these devices should not be covered up without any way to get to them, this happens frequently, because, "the code doesn't make me do otherwise". This is loophole that needs to be eliminated so that these safety devices can be accessed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 51.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, these valves might have to be located elsewhere where access can be made to the valve. This might involve a little more piping and labor. Or, at a minimum, an access panel might have to be installed in a wall or ceiling. As access wasn't required before, this extra work to provide access might increase the cost of construction in some situations.

172. IPC (IRC? NO) 418 There needs to be a clarification as to what constitutes a Service sink. Need a definition.

PMGCAC accepts. John

John indicated that the NYS plumbing code had information on this.

FROM THE 2010 NEW YORK STATE PLUMBING CODE:

SERVICE SINK. A general purpose sink intended to be used for facilitating the cleaning of a building or space.

428.1 General. Service sinks shall be a wall mounted or floor mounted mop sink with a minimum 3-inch (76 mm) outlet. Laundry trays and laundry sinks are prohibited for use as a service sink. There shall be one service sink available for each tenant. Where public and employee toilet facilities are located in the central core there shall be one service sink per floor. The service sink shall not be located within the toilet facility and may be in a locked janitor closet.

Exception: In tenant spaces without access to a centrally located service sink and having limited areas of hard surface floors, the required service sink may be omitted subject to the approval of the Code Enforcement Official if at least one toilet room within the space is equipped with hose bib outlets for hot and cold water and a floor drain.

John also wanted to clarify “Laundry trays” (But no direction was given on this)

IPC

Add new text as follows:

SERVICE SINK. A general purpose utility sink intended to be used for facilitating the cleaning of a building or tenant space.

SECTION 428 **SERVICE SINKS**

428.1 General. A service sink shall be a wall-mounted or floor-mounted mop sink. The sink drain shall have an outlet that is not less than 3-inches (76 mm) in diameter. Laundry trays and laundry sinks shall be prohibited to serve as a service sink. Where a service sink is required by Table 403.1, there shall be one service sink available for each tenant space or where public and employee toilet facilities are located in a central core of a building, there shall be one service sink on each floor of a building. Service sinks shall not be located within a toilet facility except where such sinks are located in a locked janitor closet of the toilet facility.

Exception: Where tenant spaces will not have access to a centrally-located service sink and the tenant spaces have limited areas of hard-surface floors, the required service sink shall be permitted to be omitted provided that not less than one toilet facility in the tenant space is equipped with a floor drain, hose bibbs for hot and cold water are provided in that toilet facility and such sink omission is *approved*.

Reason:

The code has always lacked information on service sinks, other than to require them in certain building uses. This section provides the necessary information. It is a plumbing fixture and deserve to be included in Chapter 4. Similar requirements have been added (to the model code) at code adoption for some State codes including New York.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC 172.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. This proposal does not require any more service sinks than required by the 2015 IPC. In fact, the proposed language offers a reasonable exception to not have a service

sink. Therefore, as service sinks were always required for specific applications, the cost impact of this proposal should be negligible, in the big picture.

147. IPC (IRC? NO) 2015 item. Section 504.6. RP56-13 was successful and the IPC needs to match. Add another list item: Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharge piping is constructed of PEX or PE-RT tubing. The outlet end of such tubing shall be fastened in place. Correlation needed.

Mike

IPC

Revise as follows:

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an *air gap* located in the same room as the water heater.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the *air gap*.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Terminate not more than 6 inches (152 mm) above and not less than two times the discharge pipe diameter above the floor or flood level rim of the waste receptor.
11. Not have a threaded connection at the end of such piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.
14. Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharge piping is constructed of PEX or PE-RT tubing. The outlet end of such tubing shall be fastened in place.

Reason:

This revision was accepted to the IRC in the last cycle. The issue is simply this: In some cases (perhaps the majority of cases), PEX and PE-RT tubing is connected using insert fittings. Where an insert fitting is used to connect to a relief valve, the ID of the insert fitting is significantly smaller than the ID of PEX or PE-RT tubing of the same nominal size of the relief valve outlet. This smaller opening might create excessive restriction where the relief valve had a full trip event. Therefore, increasing the size of the tubing increases the size of the insert fitting to allow for less restriction.

Fastening the end of the tubing is a safety measure to keep the discharge of water at the intended location. PEX and PE-RT tubing can be "springy" and could easily dislodge from the intended discharge point.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC 147.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, there will be the cost difference of one size larger tubing for the T&P discharge pipe that only 5 feet long and the extra cost of a larger fitting to connect it to the T&P valve. Very minimal cost increase.

129. IPC (IRC? NO) New Section in Chapter 5 ? or New Section in Chapter 8. There isn't anything addressing a minimum size for an indirect waste pipe that captures T&P relief valve waste (or WH drain pan drains) from many WHs.

John

John says 3 or more tied together is 1 1/2" is what NYC uses. Must be indirect connected ?, otherwise 3/4".

IPC**Add new text as follows:**

504.6.1 Relief valve indirect waste piping. Indirect waste piping that receives the discharge from not more than two ³/₄ inch (19 mm) relief valves shall be not less than ³/₄ inch (19 mm) nominal pipe size. Where indirect waste piping receives

the discharge from more than two ¾ inch (19 mm) relief valves, the piping shall be not less than 1 ½ inch (38.1 mm) nominal pipe size. Indirect waste piping receiving only the discharge from relief valves shall not require liquid-seal traps.

Reason:

Multi-story buildings having water heaters on each floor (water heaters “stacked”) sometimes have an indirect waste pipe “stack” to catch each of the T&P discharge pipes. There is currently no sizing criteria in the code. The proposed language is what the State of New York has used successfully for many years. The 3+ relief valve indirect waste pipe size doesn’t have to be any bigger for more water heaters as all of the T&P valves would never be leaking all at once. The 1 ½ inch pipe size is easy to work with in walls, is resistant to accidental damage during rough-in and is economical.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 29.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

146. IPC (IRC? NO) Section 504.7. The IRC was revised to allow aluminum and plastic pans for water heater drain pans. The IPC should follow similarly. Correlation.

Consider possible problems with these types of pans under large water heaters?

Dan.

Staff note: [Here’s the 2015 IRC text:](#)

P2801.5 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan shall not be installed beneath a gas-fired water heater.

[Here’s the IPC section with the same changes:](#)

IPC

Revise as follows:

504.7 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following: galvanized steel pan having a material thickness of not less than 0.0236 inch (0.6010 mm) (No. 24 gage), or other pans approved for such use.

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan shall not be installed beneath a gas-fired water heater.

Reason:

It would be very rare for a large commercial water heater installation to be requiring a pan. Those installations are well thought out and provisions are made for floor drains in the area of the water heater or the location of such large units are in areas where leakage will not cause damage. Thus, the existing section never comes into play for those installations.

Where this section is primarily used is in multi-family residential construction where each unit has its own water heater. Because the proposed language was approved for the 2015 IRC, there should be any reason to allow this revision for the IPC. Factory-made pans are widely available and have been used for decades. Use of such pans keeps the installed costs low as compared to what a sheet metal shop would charge to make custom, galvanized sheet steel pan. It is just not necessary.

As stated in the IRC proposal, another reason for allowing these factory-made aluminum and plastic pans is that they have smooth edges. In a residential environment, some water heaters are in a laundry room where people, including children, move about. A slip or fall against the top edge or corner of a galvanized steel pan would be unpleasant. Galvanized steel can also begin to look unsightly after many years.

This proposal is needed for consistency with the IRC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 146.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

29. IRC (IPC? YES) Section P2602.1. The following proposal (RP12-13) was Approved as Submitted (AS) at the IRC-P hearings in Dallas, however, some committee members felt the section needed additional language to clarify that the ANSI/NGWA standard could not preempt state and local laws. A Public Comment was submitted to update the language and that is the language being proposed here.

Dan

Part I-IPC

Revise as follows:

The following Section 602.3 is only provided for CAC reference:

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply shall be utilized.

602.3.1 Sources. Dependent on geological and soil conditions and the amount of rainfall, individual water supplies are of the following types: drilled well, driven well, dug well, bored well, spring, stream or cistern. Surface bodies of water and land cisterns shall not be sources of individual water supply unless properly treated by *approved* means to prevent contamination. Individual water supplies shall be constructed in accordance with the applicable state and local laws. Where the construction of individual water supplies is not regulated by state or local laws, such individual water supplies shall be constructed in accordance with NGWA-01.

The following Sections are only provided for CAC reference:

602.3.2 Minimum quantity. The combined capacity of the source and storage in an individual water supply system shall supply the fixtures with water at rates and pressures as required by this chapter.

602.3.3 Water quality. Water from an individual water supply shall be *approved* as potable by the authority having jurisdiction prior to connection to the plumbing system.

602.3.4 Disinfection of system. After construction, the individual water supply system shall be purged of deleterious matter and disinfected in accordance with Section 610.

602.3.5 Pumps. Pumps shall be rated for the transport of potable water. Pumps in an individual water supply system shall be constructed and installed so as to prevent contamination from entering a potable water supply through the pump units. Pumps shall be sealed to the well casing or covered with a water-tight seal. Pumps shall be designed to maintain a prime and installed such that ready access is provided to the pump parts of the entire assembly for repairs.

602.3.5.1 Pump enclosure. The pump room or enclosure around a well pump shall be drained and protected from freezing by heating or other *approved* means. Where pumps are installed in basements, such pumps shall be mounted on a block or shelf not less than 18 inches (457 mm) above the basement floor. Well pits shall be prohibited.

Add new standard to Chapter 15 as follows:

ANSI/NGWA-01-14 Water Well Construction Standard

We will need copy of standard to submit with proposal AND copies to be sent to Committee members when that mailing list becomes available

Reason:

Most locations where wells will be constructed are covered by state and local laws for well construction. However, some areas in a jurisdiction might not be covered by those laws (or possibly, state or local laws don't exist). Adding this standard to the code is an important backstop to make sure that wells in those areas are safely constructed to be able to provide a reliable water supply for the building(s).

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 29.

Cost Impact:

Will increase the cost of construction

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, in situations where state or local laws don't exist for the construction of wells, these requirements could add additional costs over those cost for a well that would be constructed to a quality level less than what this standard requires. Where a standard for construction does not exist, there could be ways to "cut corners" to lessen costs of construction such as not installing a well casing, not performing tests and generally, expending less labor to construct a well that might not be safe or provide a reliable supply of water.

Part II-IRC**Revise as follows:**

P2602.1 General. The water-distribution and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public water supply or sewer system, respectively, if available. When either a public water supply or sewer system, or both, are not available, or connection to them is not feasible, an individual water supply or individual (private) sewage-disposal system, or both, shall be provided. Individual water supplies shall be constructed in accordance with the applicable state and local laws. Where the construction of individual water supplies is not regulated by state or local laws, such individual water supplies shall be constructed in accordance with ANSI/NGWA-01.

Add new standard to Chapter 44 as follows:

ANSI/NGWA-01-14 Water Well Construction Standard

We will need copy of standard to submit with proposal AND copies to be sent to Committee members when that mailing list becomes available

Reason:

Most locations where wells will be constructed are covered by state and local laws for well construction. However, some areas in a jurisdiction might not be covered by those laws (or possibly, state or local laws don't exist). Adding this standard to the code is an important backstop to make sure that wells in those areas are safely constructed to be able to provide a reliable water supply for the building(s).

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 29.

Cost Impact:

Will increase the cost of construction

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, in situations where state or local laws don't exist for the construction of wells, these requirements could add additional costs over those cost for a well that would be constructed to a quality level less than what this standard requires. Where a standard for construction does not exist, there could be ways to "cut corners" to lessen costs of construction such as not installing a well casing, not performing tests and generally, expending less labor to construct a well that might not be safe or provide a reliable supply of water.

177. IPC (IRC? YES) Chapter 6 & Chapter 8. A new section is needed in Chapter 6 to govern the potable water connection to humidifiers. Most manufacturer installation instructions only say to make this connection in accordance with local codes. Also, a new section is needed in Chapter 8 to govern the drain connection as most humidifiers require an air gap for the drainage discharge.

Part I-IPC

Add new text as follows:

608.16.11 Humidifiers. The water supply connection to humidifiers shall be protected against backflow by a backflow preventer conforming to ASSE 1012 or by an *air gap*.

Revise as follows:

801.1 Scope. This chapter shall govern matters concerning indirect waste piping and special wastes. This chapter shall further control matters concerning food-handling establishments, sterilizers, humidifiers, clear-water wastes, swimming pools, methods of providing air breaks or air gaps, and neutralizing devices for corrosive wastes.

801.2 Protection. Devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, humidification, distillation, processing, cooling, or storage of ice or foods, and that discharge to the drainage system, shall be provided with protection against backflow, flooding, fouling, contamination and stoppage of the drain.

802.1 Where required. Food-handling equipment, in other than dwelling units, clearwater waste, humidifiers, dishwashing machines and utensil, pots, pans and dish washing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.8. Health-care related fixtures, devices and equipment shall discharge to the drainage system through an indirect waste pipe by means of an air gap in accordance with this chapter and Section 713.3. Fixtures not required by this section to be indirectly connected shall be directly connected to the plumbing system in accordance with Chapter 7.

Reason:

Most humidifier manufacturer installation instructions only say to make potable water connections in accordance with local codes. The codes are silent on the protection of the water supply connection to humidifiers. Humidifiers, if not regularly serviced, can be a source of contamination to the connected water supply. The inspector has no way of knowing whether such pieces of equipment have internal backflow protection. This simple addition to the codes will clarify the humidifiers need to have a backflow device just like other similar pieces of equipment in the list of items.

Humidifiers have overflows that drain excess water. Improper (direct) connection of the overflow tube could cause a contamination to occur inside of the humidifier which could result in contamination being carried into the airstream of the equipment that the humidifier is attached to. The requirement for an air gap connection at the termination of this discharge tube will prevent this possible contamination from occurring.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 177.

Cost Impact:

Will increase the cost of construction

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, there will be the added cost of a backflow preventer and the installation labor.

Part II-IRC

Add new text as follows:

P2902.6 Humidifiers. The water supply connection to humidifiers shall be protected against backflow by a backflow preventer conforming to ASSE 1012 or by an *air gap*.

SECTION P2725

HUMIDIFIER DISCHARGE

P2726.1 Overflow pipe from humidifier. The overflow pipe from a humidifier shall terminate at an air gap before discharging water to the point of disposal.

Reason:

Most humidifier manufacturer installation instructions only say to make potable water connections in accordance with local codes. The codes are silent on the protection of the water supply connection to humidifiers. Humidifiers, if not regularly serviced, can be a source of contamination to the connected water supply. The inspector has no way of knowing whether such pieces of equipment have internal backflow protection. This simple addition to the codes will clarify the humidifiers need to have a backflow device just like other similar pieces of equipment in the list of items.

Humidifiers have overflows that drain excess water. Improper (direct) connection of the overflow tube could cause a contamination to occur inside of the humidifier which could result in contamination being carried into the airstream of the equipment that the humidifier is attached to. The requirement for an air gap connection at the termination of this discharge tube will prevent this possible contamination from occurring.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 177.

Cost Impact:

Will increase the cost of construction

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, there will be the added cost of a backflow preventer and the installation labor.

165. IPC (IRC? NO) New Section 608.7.2. Phoenix has established a list of activities and facilities that are required to have secondary backflow protection at the connection to the water meter. The Arizona Department of Environmental Quality, Maricopa County and City of Phoenix Water Department all require secondary backflow protection for the services cited. Most locations cited are taken from the USC Cross Connection Control Manual.

David's Suggestion:

608.7.2 Secondary Backflow Protection. The following activities or facilities shall have reduced pressure principle backflow prevention assemblies installed as close as practicable to the point of service delivery: Hospitals, surgical clinics, laboratories, morgues, mortuaries, veterinary hospitals, industrial occupancies, packing plants, slaughter houses, chemical plants, municipal waste treatment facilities, and construction water services. Note: Multiple water services which are interconnected onsite shall be provided with not less than a Double Check Valve Assembly at each service connection.

John, David M

IPC

Add new text as follows:

603.1 Protection for public water main. Public water mains shall be protected from backflow from connected water service lines in accordance with Section 608.16.1 and 608.16.2.

608.16.1 Backflow preventer required for water service lines. A backflow prevention assembly in accordance with Section 608.13.2 shall be installed in the water service lines serving the following:

1. Hospitals
2. Surgical clinics
3. Laboratories
4. Morgues
5. Mortuaries
6. Veterinary hospitals
7. Industrial occupancies
8. Packing plants
9. Slaughter houses
10. Chemical plants
11. Municipal waste treatment facilities
12. Construction sites

The location of the required backflow prevention assembly shall be on the building site. The backflow prevention assembly shall be installed in the water service line at a point that is upstream of any site connections to the water service line.

608.16.2 Protection of site water service loop systems. Where a building site such as a campus has a water service loop system that serves two or more water service connections to buildings on the building site, a backflow prevention

assembly in accordance with Section 608.13.2 or 608.13.7 shall be installed in the water service line for each building connecting to the loop.

Reason:

New Section 608.16.1:

The code is lacking requirements for backflow protection of public water supplies that connect to buildings or building sites known to have High Risk, High Hazard activities occurring. The building and site applications identified in this new Section 608.16.1 are according to the University of Southern California's Cross Connection Control Manual. The USC Cross Connection Control Manual is a highly regarded publication produced and periodically updated by the Foundation for Cross-Connection Control and Hydraulic Research at USC. The Foundation has been involved in backflow issues for over 100 years. Many jurisdictions and water utilities operate cross-connection control programs using this Manual and their tenants concerning backflow protection.

Section 101.3 states that the intent of the International Plumbing Code is "...to establish minimum standards to provide a reasonable level of safety, health, protection of property and public welfare....." Section 101.2 states that scope of the code applies to "...plumbing systems within the jurisdiction."

The plumbing code assumes that the code-required backflow protection at each of the potable water outlets in a building (or on a building site) protects the water distribution system of the building (or site). And that this "primary protection" is adequate protection for the public water supply that the water service line serving those buildings (and sites) connects to. The problem with this assumption for the indicated buildings and building sites is that building owners and system operators have difficulty controlling every possible situation that might lead to a backflow event. Many of these operations are large complexes with miles and miles of potable water piping with thousands of potable water outlets. Some of these complexes undergo constant construction for upgrades and repair of industrial systems where potable water piping may or may not be involved. There is great potential for a cross-connection to be made.

Adding to this great potential for a cross-connection is the nature of the substances involved with these operations. The code doesn't distinguish between various hazard levels of contaminants but in practice, there is obviously a significantly higher risk for a contaminate that can make thousands of people very ill with only a small amount of material introduced into the public water supply. The organizations and companies who have administered backflow protection programs for large public water supplies have realized this for decades. The USEPA has also realized this for a long time. For public water suppliers who do have a backflow protection program, the suppliers will not allow these buildings and building sites to connect to the public water main without a Reduced Pressure Zone backflow protection assembly (reference Section 608.13.2) in the water service line.

The following question might be asked: "Why not continue to let the public water suppliers deal with this issue?" There are several issues surrounding this question:

1. Where the public water supplier does require this RPZ, it is installed on the building owner's property and in the water service line that is regulated by the IPC. Should not the plumbing code have this requirement in the code as this involves piping that the code regulates?
2. The IPC has the regulations for backflow preventers such as the appropriate standards and details about their installation. The building owner is buying this equipment (through the plumbing contractor) so the code provides the requisite information. There has been many situations where the plumbing contractor has said, "Why do I have to provide this equipment? I have complied with the IPC. Show me the IPC code section that it where it requires that I am responsible to provide this.
3. What about jurisdictions where there is not a backflow protection program in place for the public water supply? Should the public connected to that water system be any less protected than anyone else? Keep in mind what Section 101.3 says. With everyone in the backflow protection field knowing that these buildings and building sites have significant contamination risks involved, should not the IPC be a leader in protecting the public water supply for all those connected to that supply for these High Risk, High Hazard situations?

New Section 608.16.2:

This new section has nothing to do with the necessity for new Section 608.16.1. There can be building sites having multiple buildings that are served by a “loop” water service line arrangement. In other words, there is one “tap” on the public water main but once the water service line on the building site, it splits to run in different directions to service multiple buildings on the site. The two different “split” water service lines eventually meet up and connect to each other somewhere on the building site. The reasons for this “loop” design are germane to this proposal.

The problem is that this “loop” water service line design can create conditions for a backflow event to occur between buildings connected to the loop. For example, consider a campus with several high rise buildings and several low rise buildings. Where the water demand in a low rise building becomes significant, the pressure decreases in the high rise building and because the elevation of the water is so much higher than it the low rise building, the water in the high rise building moves into the “loop” towards the low rise building. *Remember that a backflow event occurs because of a change in pressure between two points.* Now imagine many buildings on a campus with water moving back and forth in the “loop” many times a day. It only takes one failed “primary” backflow preventer in one building on the campus to end up contaminating the water supply for all the buildings connected to the loop.

A double check valve backflow protection assembly for each building is sufficient to protect against this situation. It is field testable to be able to verify its proper operation. An RPZ backflow protection assembly can also provide the same protection, however, because of the higher cost, such a device would only need to be used for applications where higher hazards (such as those in new Section 608.16.1) might exist on a campus loop system.

The PMGCAC urges approval of this important proposal.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 165.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, the code doesn't require these backflow protection assemblies so yes, because the code will require them, the change in the code *appears* to make the cost of construction higher. However, knowing that many public water suppliers already mandate these backflow protection assemblies (and the building and site owners already are having to install them), there won't be an increase in construction cost. And, many owners of these buildings or sites are already smart enough to know that they don't want to be responsible for a public water supply contamination event because they failed to correctly do something correctly somewhere in the depths of their operations. They already had voluntarily complied. Where the cost impact will show up is where the building or site owner doesn't care to incur the cost, there is no backflow protection program in place in the jurisdiction, the code official recognizes the issue but can't require the RPZ because it is not in the code. In those situations there will be the added cost of RPZ backflow protection assembly, the labor to install it and, where located inside of a building, the labor and material for a drain to capture a backflow event from the RPZ.

32. IPC (IRC? YES) Section 605.14 and others. Push-fit fittings (e.g. Sharkbite, Probite, Easygrip, Speed Fit, etc.) Although the standard ASSE 1061 is in the fittings table, code text was not put in the appropriate sections for tubing that these fittings are intended for (copper, PEX, CPVC tubing)
John

Part I-IPC

Add new text as follows:

605.14.7 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

605.15.4 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

605.17.3 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

Reason:

Push-fit fittings utilize a *type* of joining method (a connection) that is different than solvent cemented, soldered, brazed connections. And technically, this type of fitting doesn't strictly fit the Chapter 2 definition of a MECHANICAL JOINT. The use of these fittings has become very popular in recent years. These fittings are marketed with names that include such terms as "bite" or "grip" or "speed".

The standard for push-fit fittings is ASSE 1061. This standard was approved for the IPC several cycles ago for inclusion into the water pipe fitting table of the code. However, most readers of the code do not realize what this standard covers and where it is referenced in the code. Because these joints are a different connection method, they need to be indicated in the appropriate sections of the MATERIALS JOINTS AND CONNECTIONS section of the code.

This proposal is not adding this standard to the code but is only adding sections that should have been added several cycles ago when ASSE 1061 was added.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 32.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II-IRC

Add new text as follows:

P2906.20 Push-fit joints. Push-fit joints shall be used only on copper-tube-size outside diameter dimensioned CPVC, PEX and copper tubing. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

Reason:

Push-fit fittings utilize a *type* of joining method (a connection) that is different than solvent cemented, soldered, brazed connections. And technically, this type of fitting doesn't strictly fit the Chapter 2 definition of a mechanical joint. The use of these fittings has become very popular in recent years. These fittings are often marketed with names that include such terms as "bite" or "grip" or "speed".

The standard for push-fit fittings is ASSE 1061. This standard was approved for the IRC several cycles ago for inclusion into the water pipe fitting table of the code. However, most readers of the code do not realize what this standard covers and where it is referenced in the code. Because these joints are a different connection method, they need to be indicated in the appropriate sections of the MATERIALS JOINTS AND CONNECTIONS section of the code.

This proposal is not adding this standard to the code but is only adding sections that should have been added several cycles ago when ASSE 1061 was added.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 32.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

198. IPC (IRC? ~~YES~~ NO) Section 608.3. Last line. There is confusion about water softeners and the requirements for backflow preventers. Some jurisdictions think that an RPZ is needed upstream of a water softener. No? This sentence needs revised to clarify that.

Accept: Maggie and Shawn

IPC

Revise as follows:

608.3 Devices, appurtenances, appliances and apparatus. Devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods,

and that connect to the water supply system, shall be provided with protection against backflow and contamination of the water supply system. ~~Water pumps, filters, softeners, tanks and other appliances and devices that handle or treat potable water shall be protected against contamination.~~

Add new text as follows

608.4 Potable water handling and treatment equipment. Water pumps, filters, softeners, tanks and other appliances and devices that handle or treat potable water to be supplied to the potable water distribution system shall be located to prevent contamination from entering the appliances and devices. Overflow, relief valve and waste discharge pipes from such appliances and devices shall terminate in accordance with the appliance or device manufacturer's installation instructions. Where such instructions do not specify the termination arrangement, the termination shall be to an air gap.

Reason:

One interpretation of the existing Section 608.3 is that the potable water supply line to a water softener is required to have a backflow preventer, supposedly to protect the water in the water service line from contamination. However, the phrase "water softener" is in a group along with filters, pumps, tanks and appliances that handle or treat potable water. If water softeners are required to have a backflow preventer upstream, does this mean that pumps and filters are also required to have backflow preventers upstream? Those items *are* in the same sentence.

This doesn't seem to make sense because a water softener provides potable water to the building's potable water distribution system. It is understood that most water softeners have a brine tank where salt is placed and periodically replenished. If the chemical (salt) is safe enough to treat the resin bed of the softener (through which the potable water to the building flows), then is there really a problem?

Millions and millions of water softeners across this country have been installed without a backflow preventer upstream of the softener. The EPA's Cross Connection Manual and the USC Manual for Cross Connection Control do not specifically mention the presence of a water softener as needing a backflow preventer. Connection diagrams for (NSF 44) water softeners do not indicate a need for backflow protection or even mention checking with the local code official to be told that backflow protection is required.

It is believed that the existing language requirement was to make sure that that these devices were not installed in pits and the overflows and relief pipes and discharge pipes from these devices passed through an air gap to the point of discharge. Nothing more. If the code intended for these devices to have a backflow preventer upstream, the device would have had language in Section 608.13. The revised code language clarifies the original intent.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 193.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

148. IPC (IRC? YES). Section 608.7. RP78-13 (failed) attempted to require backflow protection for yard hydrants. This is an accident waiting to happen and is important of both the IPC and IRC.
Janine, Maggie, Jim

Part I-IPC

Revise as follows:

608.7 Valves and outlets prohibited below grade. Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. A freezeproof yard hydrants that drains the riser into the ground are shall be considered to be as having a stop-and-waste valves below grade.

Exception: Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be installed, provided that the potable water supply to such hydrants is protected ~~upstream of the hydrants~~ in accordance with Section 608.13.2 or 608.13.5 and the hydrants and the piping from the backflow preventer to the hydrant, are identified in accordance with Section 608.8. ~~are permanently identified as nonpotable outlets by approved signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."~~

Reason:

There is no way to know what type of health hazard the stop and waste opening of a yard hydrant will be exposed to. The contaminants could include lawn fertilizer, animal wastes, garden fertilizer or septic tank effluent. This application is not any different than an irrigation system having at/below grade sprinkler heads. See Section 608.16.5. The code requires either a pressure vacuum breaker assembly or a backflow prevention assembly for that application. (For a valve downstream of the backflow preventer, an atmospheric vacuum breaker will not work). But the code currently lacks coverage for what type of backflow protection is necessary for yard hydrant applications. For the code officials who do give this yard hydrant application some thought, many simply choose a dual check valve which is only suitable for low hazard conditions. And there is no way to field verify that this type of backflow device is operational. This is a high hazard application just like an irrigation system and the potable water supply of the building should be protected accordingly. Improper backflow protection for connection of these frost proof yard hydrants to the building water distribution system is an accident waiting to happen.

Keep in mind that where a yard hydrant is needed, a sanitary type yard hydrant (one that does not drain the riser into the ground) can be provided, probably at a lower cost than requiring a backflow prevention assembly for the more inexpensive, riser drain-to-the-ground type yard hydrant. Where only one yard hydrant is installed, a sanitary yard hydrant will probably be an easier selection. Where multiple yard hydrants are on a lot, a dedicated yard hydrant line for all yard hydrants with one backflow prevention assembly to serve all hydrant might be easier.

The signage and marking requirements were removed as the indicated section was updated in the last code cycle to more adequately cover the topic. There is no need to duplicate requirements in the code.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple

conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 148.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, where code officials were not requiring the correct backflow preventer for these applications, there will be a higher cost for the correct backflow preventer plus added labor and materials for either placing the required backflow prevention assembly in a place where leakage (when failure of the device occurs) or for providing a drain for the assembly for when leakage happens (when failure of the device occurs).

Part II-IRC

Revise as follows:

P2903.9.5 Valves and outlets prohibited below grade. Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. A freezeproof yard hydrants that drains the riser into the ground ~~are~~ shall be considered to be as having a stop-and-waste valves below grade.

Exception: ~~Installation of Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be installed if, provided that the potable water supply to such hydrants is protected upstream of the hydrants in accordance with Section P2902.3.5 or P2902.3.4 and the hydrants and the piping from the backflow preventer to the hydrants are identified in accordance with Section P2901.2. are permanently identified as nonpotable outlets by approved signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."~~

Reason:

There is no way to know what type of health hazard the stop and waste opening of a yard hydrant will be exposed to. The contaminants could include lawn fertilizer, animal wastes, garden fertilizer or septic tank effluent. This application is not any different than an irrigation system having at/below grade sprinkler heads. See Section P2902.5.3. The code requires either a pressure vacuum breaker assembly or a backflow prevention assembly for that application. (For a valve downstream of the backflow preventer, an atmospheric vacuum breaker will not work). But the code currently lacks coverage for what type of backflow protection is necessary for yard hydrant applications. For the code officials who do give this yard hydrant application some thought, many simply choose a dual check valve which is only suitable for low hazard conditions. And there is no way to field verify that this type of backflow device is operational. This is a high hazard application just like an irrigation system and the potable water supply of the building should be protected accordingly. Improper backflow protection for connection of these frost proof yard hydrants to the building water distribution system is an accident waiting to happen.

Keep in mind that where a yard hydrant is needed, a sanitary type yard hydrant (one that does not drain the riser into the ground) can be provided, probably at a lower cost than requiring a backflow prevention assembly for the more inexpensive, riser drain-to-the-ground type yard hydrant.

The signage and marking requirements were removed as the indicated section was updated in the last code cycle to more adequately cover the topic. There is no need to duplicate requirements in the code.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 148.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, where code officials were not requiring the correct backflow preventer for these applications, there will be a higher cost for the correct backflow preventer plus added labor and materials for either placing the required backflow prevention assembly in a place where leakage (when failure of the device occurs) or for providing a drain for the assembly for when leakage happens (when failure of the device occurs).

195. IPC (IRC? MAYBE) Various sections. The “shall be permitted”s should be written out of these sections. Shall be permitted is permissive language, not mandatory language.

Accept: Group

Staff Note: Pulling #197 into this one.

Here are the sections and the changes needed:

Part I - IPC

Revise as follows:

605.10.2 Solvent cementing. Joint surfaces to be solvent cemented shall be clean and free from moisture. Solvent cement that conforms to ASTM D 2235 shall be applied to all joint surfaces. The joint shall be made while the cement is wet. Joints shall be made in accordance with ASTM D 2235. Solvent-cemented joints shall not be limited permitted to only above ~~or below~~ ground applications.

605.10.3 Threaded joints. Threaded connections shall be made using ~~Threads shall conform to ASME B1.20.1.~~ Schedule 80 or greater heavier wall thickness pipe. ~~shall be permitted to be~~ Pipe threads shall be cut with dies specifically designed for plastic pipe. Threads shall conform to ASME B1.20.1. Threaded connections shall be assembled by first applying to male threads only. Approved a thread lubricant that is chemically compatible with the pipe and fitting, or thread sealing tape shall be applied on the male threads only.

605.19.1 Flared joints. ~~The use of flared joints connections and the type of flared joint fittings shall be as specified permitted where so indicated by the pipe manufacturer. Flared joints shall be made by a tool designed for that operation.~~

605.22.4 Threaded joints. ~~The usable pressure rating of threaded pipe shall be 50 percent of the manufacturer's pressure rating for unthreaded pipe. Threaded connections shall be made using Threads shall conform to ASME B1.20.1. Schedule 80 or greater heavier wall thickness pipe, shall be permitted to be Pipe threaded shall be cut with dies specifically designed for plastic pipe, but the pressure rating of the pipe shall be reduced by 50 percent. The use of thread-by-socket molded fittings shall not be permitted prohibited. Threads shall conform to ASME B1.20.1. Threaded connections shall be assembled by first applying to male threads only, Approved a thread lubricant that is chemically compatible with the pipe and fitting, or thread sealing tape shall be applied on the male threads only.~~

608.13.2 Reduced pressure principle backflow prevention assemblies Reduced pressure principle backflow prevention assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector assembly backflow preventers shall conform to ASSE 1047. These devices shall be ~~permitted to be installed where subject to continuous pressure conditions~~ considered to be capable of functioning under any downstream pressure condition whether continuous or intermittent. The relief opening shall discharge by *air gap* and shall be prevented from being submerged.

608.13.3 Backflow preventer with intermediate atmospheric vent. Backflow preventers with intermediate atmospheric vents shall conform to ASSE 1012 or CSA B64.3. These devices shall be ~~permitted to be installed where subject to continuous pressure conditions~~ considered to be capable of functioning under any downstream pressure condition whether continuous or intermittent. The relief opening shall discharge by *air gap* and shall be prevented from being submerged.

608.16.3 Heat exchangers. Heat exchangers utilizing an essentially toxic transfer fluid shall be separated from the potable water by double-wall construction. An *air gap* open to the atmosphere shall be provided between the two walls. Heat exchangers utilizing an essentially nontoxic transfer fluid shall be ~~permitted to be~~ of single-wall or double wall construction.

608.16.4.1 Additives or nonpotable source. Where systems under continuous pressure contain chemical additives or antifreeze, or where systems are connected to a nonpotable secondary water supply, the potable water supply shall be protected against backflow by a reduced pressure principle backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly. Where ~~chemical additives or antifreeze are added to~~ only a portion of an automatic fire sprinkler system or standpipe system will contain chemical additives or antifreeze, only that portion of the system shall be required to be served through a the reduced pressure principle backflow prevention assembly or a the reduced pressure principle fire protection backflow prevention assembly ~~shall be permitted to be located so as to isolate that portion of the system.~~ Where these systems are not under continuous pressure, the potable water supply shall be protected against backflow by an air gap or an atmospheric vacuum breaker conforming to ASSE 1001 or CSA B64.1.1.

703.3 Sanitary drain piping and storm drain piping in the same trench sewers. ~~Where separate systems of sanitary drainage and storm drainage are installed in the same property, the sanitary and storm building sewers or drains shall be permitted to be laid side by side in one trench. Sanitary drain piping and storm drain piping shall not be prohibited from being installed side by side, without earth separation, in the the same trench.~~

705.2.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. Solvent cement that conforms to ASTM D 2235 or CSA B181.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet. Joints shall be made in accordance with ASTM D 2235, ASTM D 2661, ASTM F 628 or CSA B181.1. Solvent-cemented joints shall not be permitted limited to only above ~~or below~~ ground applications.

705.2.3 Threaded joints. Threaded connections shall be made using ~~Threads shall conform to ASME B1.20.1. Schedule 80 or greater heavier wall thickness pipe, shall be permitted to be~~ Pipe threaded ~~s shall be cut with dies specifically designed for plastic pipe. Threads shall conform to ASME B1.20.1. Threaded connections shall be assembled by first applying to male threads only. Approved a thread lubricant chemically compatible with the pipe and fitting, or thread sealing tape shall be applied on the male threads only.~~

705.4.1 Caulked joints. Joints for hub and spigot pipe shall be firmly packed with oakum, ~~or hemp or acid-resistant rope. Molten lead shall be poured into the joint in one operation and to a depth of not less than 1 inch (25 mm). The lead shall not recede more than 1/8 inch (3.2 mm) below the rim of the hub and shall be caulked tight. The application of paint, varnish or other coatings on the jointing material shall not be permitted prohibited on the jointing material until after the joint has been tested and approved. Lead shall be run in one pouring and shall be caulked tight. Acid-resistant rope and acid-proof cement shall be permitted.~~

Exception: The use of lead shall not be required where the use of acid-proof cement is required by the piping manufacturer.

705.8.1 Caulked joints. ~~Lead-caulked~~ Joints for hub and spigot soil pipe shall be firmly packed with oakum, ~~or hemp or acid-resistant rope. And filled with~~ Molten lead shall be poured into the joint in one operation and to a depth of not less than 1 inch (25 mm) in depth. The lead shall not recede more than 1/8 inch (3.2 mm) below the rim of the hub and shall be caulked tight. The application of paint, varnish or other coatings on the jointing material shall not be permitted prohibited on the jointing material until after the joint has been tested and approved. Lead shall be run in one pouring and shall be caulked tight. Acid-resistant rope and acid-proof cement shall be permitted.

Exception: The use of lead shall not be required where the use of acid-proof cement is required by the piping manufacturer.

705.11.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cemented joints shall not be limited permitted to only above or below ground applications.

Exception: A primer shall is not be required where both of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inches (102 mm) in diameter.

705.11.3 Threaded joints. Threaded connections shall be made using ~~Threads shall conform to ASME B1.20.1. Schedule 80 or greater heavier wall thickness pipe, shall be permitted to be~~ Pipe threaded ~~s shall be cut with dies specifically designed for plastic pipe. Threads shall conform to ASME B1.20.1. Threaded connections shall be assembled by first applying to male threads only. Approved a thread lubricant chemically compatible with the pipe and fitting, or thread sealing tape shall be applied on the male threads only.~~

907.3 Lower section. The lower section of the drainage *stack* shall be vented by a yoke vent. The yoke vent connection shall be between the offset and the next lower horizontal branch, or the yoke vent connection shall be permitted to be a vertical extension of the lower section of drainage stack. The size of the yoke vent and connection shall be a ~~minimum~~ not less than of the size required for the vent *stack* of the drainage *stack*.

Reason:

The primary purpose of this proposal is to resolve a multitude of language issues that have gone unchecked over many code cycles. Although the ICC Secretariats and ICC Publication editors can solve minor editorial language issues prior to the publication of the codes, more extensive language rework needs to be placed in front of the ICC membership for their

approval. The PMGCAC is pleased to take on this task as this is a simple thing to do to improve the codes for everyone's benefit. And that is part of the reason for the formation of the CAC's: to improve the codes.

Eliminating the phrase "shall be permitted" (and "is permitted") , wherever possible:

The phrase "shall be permitted" is often incorrectly applied in code language. The incorrect phrase application is believed to come from the belief that one always has to ask for permission *to do anything*. Certainly, where the code does regulate something by indicating, such as, what materials to use or what dimension to not exceed, permission does need to be granted to use a different material or to exceed the dimension. However, where the code does not speak of anything regarding the materials to be used or the dimensions not to be exceeded, then the code is silent. Permission does not have to be granted for something that the code does not regulate.

For example, consider an appliance such as an icemaker. The code does not regulate the location of icemakers. Therefore, to put a statement in the code that says, "Icemakers shall be permitted to be 18 inches away from any wall." is an assumption that permission had to be granted for the location of the icemaker. But the code does not regulate icemaker location nor does it specify a dimension in the first place in order for that permission to be granted. Essentially, the "shall be permitted" statement is nonsensical because by the code's silence, icemakers can be located anywhere.

What the proponent meant to say is "Icemakers shall be located not closer than 18 inches to a wall." Now the code is making a mandatory statement about what is required. Any dimension 18 inches and greater is acceptable. No permission is necessary for 18 inches or greater. "Permission" (in accordance with Section 105.2) would have to be requested for less than 18 inches.

The use of "shall be permitted" is an unfortunate habit that tends to spiral out of control in code language because somehow, proponents think that the use of "shall be permitted" is *always* mandatory language. Perhaps it is the "legalese sound" of such a phrase that makes people think that a requirement is being stated. However, the words do not state requirement, but in the example given, only a permission for something that was not regulated at all.

There is a certain type of situation where the use of "shall be permitted" is appropriate. For example, consider the code requirement for a water closet to be set not closer than 15 inches from its center to an obstruction at the side of the water closet. A proponent wants to allow that dimension to be 12 inches *under certain conditions*. Essentially, the proponent is wanting to write an exception to the code limitation of 15 inches. His exception states:

Exception: A water closet *shall be permitted* closer than 12 inches from its center to an obstruction at its side *provided that* the obstruction is a bathtub having an apron height of not greater than 15 inches above the finished floor and the bathtub is not equipped with a shower door system.

Now the use of "shall be permitted" is appropriate because the code already stated a requirement in the main section and an exception (a grant of permission) is provided *where certain conditions exist*. "*Where certain conditions exist*" is a key element in the proper use of "shall be permitted". Typically, the conditions follow the phrase "provided that". Where the code had regulations about something, then permission needs to be granted to do something different than what the code required. And that permission needs to spell out the conditions for the code official (and the user) in order to be in compliance with the code.

An obscure interpretation twist in the use of "shall be permitted" is where the code official believes that whatever follows the phrase is within his or her authority to grant or reject. Using the previous example: "Icemakers shall be permitted to be 18 inches away from any wall." Mr. Code Official says on one project, "No, I am not going to give you permission to do that." But on another project, he grants the permission. The conditions for granting permission are missing, well at least they are missing in the code language.

Some uses of "shall be permitted" might seem harmless. And some uses of "shall be permitted" are appropriate where conditions are provided for an exception to what the code already regulates. It is best to not use the phrase at all but sometimes it is very difficult where statements have been put in the code that essentially say "It's OK to do this or use that." Some of these "regulations" came to be because a contractor was not allowed to do something because of a judgment call a code official had to make because the code was not clear or the manufacturer's instructions deferred to the code official. A proposal was made to the code to add text to "allow something". This type of language is very difficult to accommodate within a code that is written in a format of "do this" and "don't do that". In reviewing the proposing

changes, the reader will see how some of these more difficult situations are handled so that the code language maintains a mandatory format.

Most of the sections in this proposal involve the elimination of “shall be permitted” and “permitted”. It should be readily obvious which ones those are.

These sections are not the only locations in the code where “shall be permitted” and “permitted” are used “inappropriately” in the code. These are only the easy ones to correct without involving potentially significant technical changes.

Eliminating the use of the word “approved”, where appropriate:

Certainly there are situations where approval by the code official is needed. The I-codes are loaded with “and *approved*”. However, some uses of “approved” were inadvertently placed in code language or place the code official in an unnecessary (and perhaps difficult) position for making approvals.

In the proposed revised code sections, a statement similar to “An *approved* thread lubricant shall be used.” In this case, it could be that a pipe and fitting manufacturer unknowing used the term “approved” to mean “make sure you use something that the manufacturer approves”. Or, it could really mean that the code official has to approve the thread lubricant. It is uncertain, but because the term “approved” is ubiquitous in the codes, the default interpretation is always *approved by the code official*. If the code official is supposed to *approve* the thread lubricant, then on what basis does he or she grant the approval? The code provides nothing to go on.

In the revised code sections, *approved* was removed for the thread lubricant and a requirement for “chemical compatibility” inserted. It is believed that the code official does not want to be involved with *approval* of thread lubricants. The installer is already required to comply with the (pipe and fitting) manufacturers’ instructions (see Section 303.2). It doesn’t hurt to put the requirement for chemical compatibility in this section to remind the installer to pay attention to this. And, if the code official spots an obvious mistake in thread lubricant use (typically, a petroleum-based metal piping thread lubricant being used on plastic piping is a common violation), he or she has code language to fall back to and doesn’t have to dig deeper into the pipe and fitting manufacturer’s instructions.

In the same light is a statement similar to “An *approved*... tape shall be used.” It is uncertain whether the modifier “approved” in the sections to be revised is actually meant to apply to the term “tape”. What kind of tape? Most everybody in the plumbing trade knows that the intended tape is *thread sealing* tape. Is it necessary to be that explicit? Probably not but someone could apply electrical tape on the threads and be in compliance. Therefore, maybe “approved” was intended to modify “tape”. Again, it is believed that the code official does not want to be involved with approval of *thread sealing tape*. This material has such widespread availability and use that it would be difficult to misunderstand what was intended which is the thin PTFE tape provided in rolls labeled “thread seal(ing) tape”. The code has not seen a need to specify a minimum thickness, a reference standard or color types so why would a code official need to approve this material? It is not necessary.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 195.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II - IRC

Revise as follows:

P3003.3.2 Solvent cementing. Joint surfaces to be solvent cemented shall be clean and free from moisture. Solvent cement that conforms to ASTM D 2235 or CSA B181.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet. Joints shall be made in accordance with ASTM D 2235, ASTM D 2661, ASTM F 628 or CSA B181.1. Solvent-cemented joints shall not be limited permitted to only above or below ground applications.

P3003.3.3 Threaded joints. Threaded connections shall be made using Threads shall conform to ASME B1.20.1. Schedule 80 or greater heavier wall thickness pipe, shall be permitted to be Pipe threaded shall be cut with dies specifically designed for plastic pipe. Threads shall conform to ASME B1.20.1. Threaded connections shall be assembled by first applying to male threads only, Approved a thread lubricant that is chemically compatible with the pipe and fitting, or thread sealing tape shall be applied on the male threads only.

P3003.4.1 Caulked joints. Joints for hub and spigot pipe shall be firmly packed with oakum or hemp. Molten lead shall be poured into the joint in one operation and to a depth of not less than 1 inch (25 mm). The lead shall not recede more than $\frac{1}{8}$ inch (3.2 mm) below the rim of the hub and shall be caulked tight. The application of paint, varnish or other coatings on the jointing material shall not be permitted prohibited on the jointing material until after the joint has been tested and approved. ~~Lead shall be run in one pouring and shall be caulked tight.~~

P3003.9.3 Threaded joints. Threaded connections shall be made using Threads shall conform to ASME B1.20.1. Schedule 80 or greater heavier wall thickness pipe, shall be permitted to be Pipe threaded shall be cut with dies specifically designed for plastic pipe, ~~but the pressure rating of the pipe shall be reduced by 50 percent.~~ Threads shall conform to ASME B1.20.1. Threaded connections shall be assembled by first applying to male threads only, Approved a thread lubricant that is chemically compatible with the pipe and fitting, or thread sealing tape shall be applied on the male threads only.

Reason:

The primary purpose of this proposal is to resolve a multitude of language issues that have gone unchecked over many code cycles. Although the ICC Secretariats and ICC Publication editors can solve minor editorial language issues prior to the publication of the codes, more extensive language rework needs to be placed in front of the ICC membership for their approval. The PMGCAC is pleased to take on this task as this is a simple thing to do to improve the codes for everyone's benefit. And that is part of the reason for the formation of the CAC's: to improve the codes.

Eliminating the phrase "shall be permitted" (and "is permitted"), wherever possible:

The phrase "shall be permitted" is often incorrectly applied in code language. The incorrect phrase application is believed to come from the belief that one always has to ask for permission *to do anything*. Certainly, where the code does regulate something by indicating, such as, what materials to use or what dimension to not exceed, permission does need to be granted to use a different material or to exceed the dimension. However, where the code does not speak of anything regarding the materials to be used or the dimensions not to be exceeded, then the code is silent. Permission does not have to be granted for something that the code does not regulate.

For example, consider an appliance such as an icemaker. The code does not regulate the location of icemakers. Therefore, to put a statement in the code that says, "Icemakers shall be permitted to be 18 inches away from any wall." is an assumption that permission had to be granted for the location of the icemaker. But the code does not regulate

icemaker location nor does it specify a dimension in the first place in order for that permission to be granted. Essentially, the “shall be permitted” statement is nonsensical because by the code’s silence, icemakers can be located anywhere.

What the proponent meant to say is “Icemakers shall be located not closer than 18 inches to a wall.” Now the code is making a mandatory statement about what is required. Any dimension 18 inches and greater is acceptable. No permission is necessary for 18 inches or greater. “Permission” (in accordance with Section 105.2) would have to be requested for less than 18 inches.

The use of “shall be permitted” is an unfortunate habit that tends to spiral out of control in code language because somehow, proponents think that the use of “shall be permitted” is *always* mandatory language. Perhaps it is the “legalese sound” of such a phrase that makes people think that a requirement is being stated. However, the words do not state requirement, but in the example given, only a permission for something that was not regulated at all.

There is a certain type of situation where the use of “shall be permitted” is appropriate. For example, consider the code requirement for a water closet to be set not closer than 15 inches from its center to an obstruction at the side of the water closet. A proponent wants to allow that dimension to be 12 inches *under certain conditions*. Essentially, the proponent is wanting to write an exception to the code limitation of 15 inches. His exception states:

Exception: A water closet *shall be permitted* closer than 12 inches from its center to an obstruction at its side *provided that* the obstruction is a bathtub having an apron height of not greater than 15 inches above the finished floor and the bathtub is not equipped with a shower door system.

Now the use of “shall be permitted” is appropriate because the code already stated a requirement in the main section and an exception (a grant of permission) is provided *where certain conditions exist*. “*Where certain conditions exist*” is a key element in the proper use of “shall be permitted”. Typically, the conditions follow the phrase “provided that”. Where the code had regulations about something, then permission needs to be granted to do something different than what the code required. And that permission needs to spell out the conditions for the code official (and the user) in order to be in compliance with the code.

An obscure interpretation twist in the use of “shall be permitted” is where the code official believes that whatever follows the phrase is within his or her authority to grant or reject. Using the previous example: “Icemakers shall be permitted to be 18 inches away from any wall.” Mr. Code Official says on one project, “No, I am not going to give you permission to do that.” But on another project, he grants the permission. The conditions for granting permission are missing, well at least they are missing in the code language.

Some uses of “shall be permitted” might seem harmless. And some uses of “shall be permitted” are appropriate where conditions are provided for an exception to what the code already regulates. It is best to not use the phrase at all but sometimes it is very difficult where statements have been put in the code that essentially say “It’s OK to do this or use that.” Some of these “regulations” came to be because a contractor was not allowed to do something because of a judgment call a code official had to make because the code was not clear or the manufacturer’s instructions deferred to the code official. A proposal was made to the code to add text to “allow something”. This type of language is very difficult to accommodate within a code that is written in a format of “do this” and “don’t do that”. In reviewing the proposing changes, the reader will see how some of these more difficult situations are handled so that the code language maintains a mandatory format.

Most of the sections in this proposal involve the elimination of “shall be permitted” and “permitted”. It should be readily obvious which ones those are.

These sections are not the only locations in the code where “shall be permitted” and “permitted” are used “inappropriately” in the code. These are only the easy ones to correct without involving potentially significant technical changes.

Eliminating the use of the word “approved”, where appropriate:

Certainly there are situations where approval by the code official is needed. The I-codes are loaded with “and *approved*”. However, some uses of “approved” were inadvertently placed in code language or place the code official in an unnecessary (and perhaps difficult) position for making approvals.

In the proposed revised code sections, a statement similar to “An *approved* thread lubricant shall be used.” In this case, it could be that a pipe and fitting manufacturer unknowing used the term “approved” to mean “make sure you use something that the manufacturer approves”. Or, it could really mean that the code official has to approve the thread lubricant. It is uncertain, but because the term “approved” is ubiquitous in the codes, the default interpretation is always *approved by the code official*. If the code official is supposed to *approve* the thread lubricant, then on what basis does he or she grant the approval? The code provides nothing to go on.

In the revised code sections, *approved* was removed for the thread lubricant and a requirement for “chemical compatibility” inserted. It is believed that the code official does not want to be involved with *approval* of thread lubricants. The installer is already required to comply with the (pipe and fitting) manufacturers’ instructions (see Section 303.2). It doesn’t hurt to put the requirement for chemical compatibility in this section to remind the installer to pay attention to this. And, if the code official spots an obvious mistake in thread lubricant use (typically, a petroleum-based metal piping thread lubricant being used on plastic piping is a common violation), he or she has code language to fall back to and doesn’t have to dig deeper into the pipe and fitting manufacturer’s instructions.

In the same light is a statement similar to “An *approved*... tape shall be used.” It is uncertain whether the modifier “approved” in the sections to be revised is actually meant to apply to the term “tape”. What kind of tape? Most everybody in the plumbing trade knows that the intended tape is *thread sealing* tape. Is it necessary to be that explicit? Probably not but someone could apply electrical tape on the threads and be in compliance. Therefore, maybe “approved” was intended to modify “tape”. Again, it is believed that the code official does not want to be involved with approval of *thread sealing tape*. This material has such widespread availability and use that it would be difficult to misunderstand what was intended which is the thin PTFE tape provided in rolls labeled “thread seal(ing) tape”. The code has not seen a need to specify a minimum thickness, a reference standard or color types so why would a code official need to approve this material? It is not necessary.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

128. IPC (IRC? NO) Sections 608.6.1, 608.16.9 and 608.16.10. We believe that the intent of the code is for these individual pieces of equipment, there needs to be individual backflow preventers for each water line to the equipment to prevent cross contamination between individual pieces of equipment. Sections 608.1 and Section 608.3 talk about protection of the potable water supply system but it is not clear this includes between different pieces of equipment supplying water for human ingestion.
Jim, Maggie

(Staff note: Similar to Item #95 BUT do not combine as one may fail!)

IPC

Revise as follows:

608.16.1. Beverage dispensers. The water supply connection to each beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an *air gap*. The portion of the backflow preventer device downstream from the second check valve and the piping downstream therefrom shall not be affected by carbon dioxide gas.

608.16.9. Dental pumping equipment. ~~Where dental pumping equipment connects to the water distribution system,~~ The water supply connection to each dental pumping equipment system shall be protected against backflow in accordance with Section 608.13.1, 608.13.2, 608.13.5, 608.13.6 or 608.13.8.

608.16.10. Coffee machines and noncarbonated beverage dispensers. The water supply connection to each coffee machines and each noncarbonated beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an *air gap*.

Reason:

The reason for these revisions should be obvious. Each “unit” needs to be protected from backflow from the other “unit”. For example, installing one backflow preventer device to serve multiple “units” leaves open the possibility that contamination in one “unit” could contaminate an adjacent “unit”. In other words, cross contamination could occur. Although the backflow protection section of the code is primarily concerned with protecting the potable water supply from the “units”, the code needs to also be specific about protection between units. These changes make this clear. Hopefully, many jurisdictions have already been aware of this potential problem and have already required separate backflow prevention devices for these units.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 128.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. For those jurisdictions that were not enforcing the code in this manner, yes, there might need to be extra backflow prevention devices installed. In those situations there will be an increased cost of material and labor.

95. IPC (IRC? NO) Section 608.16.10 - Add ASSE 1024 device language? Also do we want to add carbonated beverage dispenser to the Section 608.16.1 as the code states non-carbonated beverage dispenser in 608.16.10?

John, Shawn

Staff note: Similar to Item # 128 but do not combine because one might fail.

IPC

Revise as follows:

608.16.1 Beverage dispensers. The water supply connection to beverage dispensers shall be protected against backflow in accordance with Section 608.16.1.1 and 608.16.1.2, by a backflow preventer conforming to ASSE 1022 or by an *air gap*. ~~The portion of the backflow preventer device downstream from the second check valve and the piping downstream therefrom shall not be affected by carbon dioxide gas.~~

Add new text as follows:

608.16.1.1 Carbonated beverage dispensers. The water supply connection to carbonated beverage dispensers shall be protected against backflow by a backflow prevention device conforming to ASSE 1022 or by an *air gap*. The portion of the backflow preventer device downstream from the second check valve of the device and the piping downstream therefrom shall not be affected by carbon dioxide gas.

608.16.1.2 Coffee machines and noncarbonated beverage dispensers. The water supply connection to coffee machines and noncarbonated beverage dispensers shall be protected against backflow by a backflow prevention device conforming to ASSE 1024 or by an *air gap*.

Delete without substitution:

~~**608.16.10 Coffee machines and noncarbonated beverage dispensers.** The water supply connection to coffee machines and noncarbonated beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an *air gap*.~~

Reason:

There is not a need to protect the potable water supply to coffee machines and noncarbonated beverage dispensers with a backflow prevention device that is suitable for a potable water supply connection to a carbonated beverage dispenser. The ASSE 1022 device is constructed especially for exposure to carbon dioxide gas and carbonated water. An ASSE 1024 device is a dual check valve device just like the ASSE 1022 device but it does not have an intermediate atmospheric vent and thus, does not require a drain. There isn't any justification for needing to use the ASSE 1022 device (and having to provide a drain for the vent) where there will not be exposure to carbon dioxide gas or carbonated water. What comes from a coffee machine or a non-carbonated beverage dispenser is supposedly safe enough to ingest so why have so great of concern that the potable water supply might become "polluted" with something that will not make people sick if an ASSE 1024 device fails. (See the definition of POLLUTED in Chapter 2).

Also consider that, in general, ASSE 1022 devices apparently don't have a long life according to many field reports. On the other hand, ASSE 1024 devices are frequently used with great success in many other similar low hazard applications.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 95.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

199. IPC (IRC? YES) Section 701.2. Forces drainage to a sewer or to an IPSDC system. Needs to expand to allow drainage to a gray water system or another septic system in accordance with local and state requirements.

Accept: Maggie Shawn and Janine

Part I - IPC

Revise as follows:

701.2 Connection to sewer required. ~~Buildings in which plumbing fixtures are installed and premises having drainage piping shall be connected to a *public sewer*, where available, or an *approved private sewage disposal system* in accordance with the *International Private Sewage Disposal Code*. Sanitary drainage piping from plumbing fixtures in buildings and sanitary drainage piping systems from premises shall be connected to a *public sewer*. Where a *public sewer* is not available, the sanitary drainage piping and systems shall be connected to a *private sewage disposal system* in compliance with state or local requirements. Where state or local requirements do not exist for private sewage disposal systems, the sanitary drainage piping and systems shall be connected to an *approved private sewage disposal system* that is in accordance with the *International Private Sewage Disposal Code*.~~

Exception: Sanitary drainage piping and systems that convey only the discharge from bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to connect to a *public sewer* or to a private sewage disposal system provided that the piping or systems are connected to a system in accordance with Chapter 13 or 14.

Reason:

The section is being re-written because many jurisdictions have state and local laws regulating private sewage disposal systems and do not and cannot use the IPSDC. However, there are some jurisdictions that do not have state and local laws for private sewage disposal, therefore in those cases, the IPSDC provide regulations for waste disposal.

The section language (existing or revised) presents a roadblock for utilizing gray water systems. The exception was added to allow for gray water to be diverted from the sewer or private sewage disposal system so that it can be processed by systems in accordance with Chapters 13 or 14.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 199.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II - IRC**Revise as follows:**

P2602.1 General. ~~The water-distribution and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public water supply or sewer system, respectively, if available. When either a public water-supply or sewer system, or both, are is not available, or connection to the supply them is not feasible, an individual water supply or individual (private) sewage disposal system, or both, shall be provided. Sanitary drainage piping from plumbing fixtures in buildings and sanitary drainage piping systems from premises shall be connected to a public sewer. Where a public sewer is not available, the sanitary drainage piping and systems shall be connected to a private sewage disposal system in compliance with state or local requirements. Where state or local requirements do not exist for private sewage disposal systems, the sanitary drainage piping and systems shall be connected to an approved private sewage disposal system that is in accordance with the *International Private Sewage Disposal Code*.~~

Exception: Sanitary drainage piping and systems that convey only the discharge from bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to connect to a public sewer or to a private sewage disposal system provided that the piping or systems are connected to a system in accordance with Chapter 13 or 14.

Reason:

Some jurisdictions do not have state and local laws for private sewage disposal systems. Therefore in those cases, the IPSDC provides regulations for waste disposal.

The section language (existing or revised) presents a roadblock for utilizing gray water systems. The exception was added to allow for gray water to be diverted from the sewer or private sewage disposal system so that it can be processed by systems in accordance with Chapters P2910 or P2911.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 199.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, where private sewage disposal is not regulated by state and local laws, builders could do anything with sewage. They might not provide a large enough private sewage disposal system or one made of materials having long life. In those situations, there will be the extra cost for properly sized systems and better materials. Possibly there would be some additional labor for a larger installation.

137. IPC (IRC? NO). Section 701.9. This section has come up several times over several years. At first, we believed the reasoning behind this was the potential for leakage from joints in piping. But lately, reading the Food Code by the FDA, there is (and has been) a big deal made about “clean ability” of surfaces above food areas. Obviously pipes and pipe hangers would be difficult to clean. And the other issue is condensation forming on the outside of the piping (and maybe dripping dirt down on the food area). The bottom line is that the food preparation area needs to have a ceiling below piping, ductwork and all other things that might be hard to clean. This requirement needs to be removed from the IPC and put in as a requirement in the IBC (perhaps at the end of Chapter 12?). Perhaps a section in Chapter 3 of the IPC might be appropriate to remind the plumbers that all piping needs to be above the required ceiling.
Brent, David

IPC

Delete without substitution:

~~**701.8 Drainage piping in food service areas.** Exposed soil or waste piping shall not be installed above any working, storage or eating surfaces in food service establishments.~~

Reason:

Questions about this section have been coming up more frequently concerning the necessity of this requirement and the intent of the section. Does this section mean that soil and waste piping cannot be above the indicated areas *regardless* of whether a “ceiling” is between the piping and those areas? Or is this section requiring that a ceiling be installed and if so,

what type of ceiling (lay-panel/grid work or gypsum board on framing)? Or is this section requiring custom-made “drip pans” under all soil and waste piping (whether there is a ceiling between the piping and the surfaces below or not)?

This section is vague and should be removed from the code. Here’s why:

There seems to be the implication that soil and waste piping joints will always leak even though the piping is installed in accordance with the code and is pressure tested in the presence of a code official. If there really is a significant problem with joints failing, then that is an issue to be solved elsewhere. What about ductwork, sprinkler piping and even penetrations through a floor above that can leak “contaminated water” that can drop down to the surfaces below? What about condensation on the outside of cool surfaces that carry years of dirt off of surfaces. Why is there not a similar restriction against the installation of ductwork, sprinkler piping and penetrations above these areas?

If the assumption is made that a ceiling below the piping is what is required, why does a ceiling make the situation any more acceptable? Lay-in panel/grid ceiling systems can “leak” water without ever showing any damage to ceiling panels (think of the lighting troffers). Would we not be just as concerned about leakage in a space above a ceiling that served as an air plenum for a HVAC system?

A recent popular building design practice for restaurants is to not have a “ceiling” over the eating surfaces such as tables or bars. The “ceiling” in these areas is the bottom of the roof deck or the floor above. All the support structure, ductwork, sprinkler piping, other piping and associated hardware is exposed; typically all painted a uniform dark color.

Where the floor above the eating surfaces has plumbing fixtures, there will necessarily be soil and waste piping below the floor and in the open ceiling area just described. If the code intends for “drip pans” to be installed under the piping, then what should the drip pans be made of? Should those pans slope to a drain point? If so, where should the discharge of the drip pans be routed to? Is it acceptable to have the drip pans catching leaks for years and, unbeknownst to the owner, allowing a build-up of a festering mess of bacteria that is open to the moving ventilation air in the space?

A reading of the latest Food Code by the FDA, did not reveal any prohibitions for soil and waste piping above the surfaces indicated in this section. However, the Food Code does make a big deal about the “clean ability” of surfaces above food prep areas (but not above eating surfaces). Obviously, pipes and pipe hangers as well as most structural and ductwork surfaces would be difficult to clean. The local health departments enforcing their version of the Food Code will most likely demand ceilings in the food prep area even though the code (the IBC) does not have such a requirement.

Perhaps what needs to happen is that a proposal to the IBC be made to indicate that ceilings (and what type) are required above food preparation areas with the justification that the Food Code has concerns about “clean ability” of items that would be exposed if the ceiling was not there. That seems more logical than possibly what IPC Section 701.8 is trying to imply.

The PMGCAC did not feel that it was within their scope to make or suggest an IBC proposal for ceilings in restaurants. However, if such a proposal was made and was successful, it would be appropriate to make a proposal to the IPC that would prohibit the installation of *any* type of piping below a ceiling required by IBC Section 123.4 (whatever the IBC section number would end up being). Until then, this IPC Section 701.8 should simply be removed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 137.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

52. IPC (IRC? NO) Tables 702.1, 702.2, 702.3 are missing ductile iron pipe material (however, the pipe fitting Table 702.4 has ductile iron fittings). And there are not corresponding sections in Section 705 (Joints) for ductile iron. The pipe standards are AWWA C115 (flanged ends) and AWWA C151 (plain end). Both standards are already in the code in Chapter 6, however, ductile iron for wastewater service does not require cement mortar lining like water distribution piping does. (Same pipe spec – just ordered with or without mortar lining.)

Shawn

IPC

Revise as follows:

TABLE 702.1
ABOVE-GROUND DRAINAGE AND VENT PIPE

MATERIAL	STANDARD
<u>Ductile iron</u>	<u>AWWA C115, AWWA C151</u>

TABLE 702.2
UNDERGROUND BUILDING DRAINAGE AND VENT PIPE

MATERIAL	STANDARD
<u>Ductile iron</u>	<u>AWWA C115, AWWA C151</u>

TABLE 702.3
BUILDING SEWER PIPE

MATERIAL	STANDARD
<u>Ductile iron</u>	<u>AWWA C115, AWWA C151</u>

Add new text as follows:

705.12. Ductile iron. Joints between ductile iron pipe sections, or between ductile iron pipe and ductile or gray iron fittings shall be mechanical joints installed in accordance with the manufacturer's instructions.

Reason:

Tables 702.1, 702.2, 702.3 are each missing a ductile iron pipe material entry even though the pipe fitting Table 702.4 includes ductile iron fittings. That in itself is a coordination problem. Why would the pipe fittings be included in the code but not the pipe? Over the years, there have been a few designers asking about what this is because they want to use ductile iron for sanitary drainage service. Although more costly than most other drainage pipe materials, there are good reasons for that material choice for special circumstances both inside and outside of a building. This material might be used where support spacing is desired to be much wider than the code allows (Table 308.5). Or burial in expansive soils creates significant stresses for the piping that other pipe materials don't have the strength to withstand.

Ductile iron piping is frequently used by utilities for wastewater service. The standards for ductile iron piping are already in the code because the same standards apply to ductile iron water piping. However, for water service, the piping is required (by this code) to have cement mortar lining to reduce rust coloring of potable water. Ductile iron for wastewater service does not need a lining.

The new section simply covers how the joints are to be made between fittings and the piping.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 52.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

53. IPC (IRC? YES) Table 702.4. Copper and copper alloy row. ASME B 16.15 (pressure fittings), B 16.18 (pressure fittings), B16.22 (pressure fittings) and B16.26 (flared copper tube fittings) are not drainage pattern fittings and should be removed. The remaining standards ASME B16.23 and B16.29 are correct for DWV.

Maggie

Part I-IPC

Revise as follows:

**TABLE 702.4
PIPE FITTINGS**

MATERIAL	STANDARD
Copper or copper alloy	ASME B 16.15; ASME B 16.18; ASME B 16.22; ASME B 16.23; ASME B 16.26; ASME B 16.29

Reason:

Chapter 7 is the sanitary drainage chapter of the code. ASME B 16.15 (pressure fittings), B 16.18 (pressure fittings), B16.22 (pressure fittings) and B16.26 (flared copper tube fittings) are not drainage pattern fittings and should be removed from this table. The remaining standards ASME B16.23 and B16.29 are correct for DWV piping.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 53.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II-IRC

Revise as follows:

**TABLE P3002.3
PIPE FITTINGS**

MATERIAL	STANDARD
Copper or copper alloy	ASME B 16.15; ASME B 16.18; ASME B 16.22; ASME B 16.23; ASME B 16.26; ASME B 16.29

Reason:

Chapter 30 is the sanitary drainage chapter of the code. ASME B 16.15 (pressure fittings), B 16.18 (pressure fittings), B16.22 (pressure fittings) and B16.26 (flared copper tube fittings) are not drainage pattern fittings and should be removed from this table. The remaining standards ASME B16.23 and B16.29 are correct for DWV piping.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 53.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

54. IPC (IRC? NO) Table 702.4. The malleable iron fitting row should be deleted. These are not drainage pattern fittings and would not even be suitable for venting systems as the condensate would not readily flow back to the drain system.
Maggie

Part I – IPC

Revise as follows:

**TABLE 702.4
PIPE FITTINGS**

MATERIAL	STANDARD
Malleable iron	ASME B-16.3

Reason:

Chapter 7 is the sanitary drainage chapter of the code. The malleable iron row should be deleted. These are not drainage pattern fittings and would not even be suitable for venting systems as the condensate would not readily flow back to the drain system.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 54.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II – IRC

Revise as follows:

**TABLE 702.4
PIPE FITTINGS**

MATERIAL	STANDARD
Malleable iron	ASME B 16.3

Reason:

Chapter 30 is the sanitary drainage chapter of the code. The malleable iron row should be deleted. These are not drainage pattern fittings and would not even be suitable for venting systems as the condensate would not ready flow back to the drain system.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

35. IPC (IRC? YES) Table 702.4 plus new section in Section 705 Joints. Polyethylene pipe is in IPC (and IRC) building sewer table but not in fittings table. Should there be a new section about fittings and that they should comply with ASTM D2683 (socket fittings for PE pipe-this standard is already in the code)? Remember, there could be fittings required in a building sewer pipe..laterals...cleanouts.
John

Part I - IPC

Revise as follows:

**TABLE 702.4
PIPE FITTINGS**

MATERIAL	STANDARD
<u>Polyethylene</u>	<u>ASTM D2683</u>

(Portions of table not shown remain unchanged)

Reason:

Polyethylene pipe is already in IPC table for Building Sewer Pipe. However, a corresponding entry for pipe fittings of this material was not installed in the fittings table. This created a problem where fittings were needed for this pipe. Fittings could be required for branch piping, lateral connections and cleanouts. Section 717 for Pipe Bursting for sewer replacement was added to the code in the last cycle. That section included the fitting standard ASTM D2683. This standard just needs to be put in Table 702.4 so that fittings for polyethylene pipe included for sewer applications other than pipe bursting sewer applications.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 35.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II - IRC

Revise as follows:

**TABLE P3002.3
PIPE FITTINGS**

MATERIAL	STANDARD
<u>Polyethylene</u>	<u>ASTM D2683</u>

(Portions of table not shown remain unchanged)

Reason:

Polyethylene pipe is already in IRC table for Building Sewer Pipe. However, a corresponding entry for pipe fittings of this material was not installed in the fittings table. This created a problem where fittings were needed for this pipe. Fittings could be required for branch piping, lateral connections and cleanouts. Section P3010 for Pipe Bursting for sewer replacement was added to the code in the last cycle. That section included the fitting standard ASTM D2683. This standard just needs to be put in Table P3002.3 so that fittings for polyethylene pipe included for sewer applications other than pipe bursting sewer applications.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 35.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

200. IPC (IRC? NO) Section 703.4. This section in the IRC was modified for 2015. The IPC need to be coordinated.

Accept: Shawn

IPC

Revise as follows:

703.4 Existing building sewers and building drains. ~~Existing building sewers and drains shall be used in connection with new systems when found by examination and test to conform to the new system in quality of material. The code official shall notify the owner to make the changes necessary to conform to this code. Where the entire sanitary drainage system of an existing building is replaced, existing building drains under concrete slabs and existing building sewers that will serve the new system shall be internally examined to verify that the piping is sloping in the correct direction, is not broken, is not obstructed and is sized for the drainage load of the new plumbing drainage system to be installed.~~

Reason:

This same proposal was approved for the 2015 IRC. This proposal is to coordinate the IPC with the same allowance.

Consider a few situations that happen to buildings. 1) A slab-on grade building burns down or is wind damaged such that only the remaining slab foundation will be used to re-construct a new building. Re-use of the building drain would be desirable to avoid extensive slab rework. 2) A building is completely razed or the entire plumbing drainage system of a building needs replaced such that only the building sewer remains. Re-use of the building sewer would be desirable to avoid extensive costs and possible complications for replacing the sewer (such as crossing a public street to connect to the public sewer). Why tear out good, serviceable building drains and building sewers for the sake of replacing with new material? The only way to know if existing building drains and existing building sewers are serviceable is to internally examine the piping for problems.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 200.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

201. IPC (IRC? MAYBE) Section 704.2. Second line. Clarify what is meant by a 4 x 3 connection.

Accept Alexander, Brent

Part I-IPC

Revise as follows:

704.2 Change No reduction in size in the direction of flow. The size of the drainage piping shall not be reduced in size in the direction of the flow. ~~A 4-inch by 3-inch (102 mm by 76 mm) water closet connection shall not be considered as a reduction in size.~~ The following shall not be considered a reduction in size in the direction of flow:

1. A 4-inch by 3-inch (102 mm by 76 mm) water closet flange.
2. A water closet bend fitting having a 4-inch (102 mm) inlet and a 3-inch (76 mm) outlet provided that the 4 inch leg of the fitting is upright and below, but not necessarily directly connected to, the water closet flange.
3. An approved offset closet flange.

Reason:

This section begs for clarification especially since 4 x 3 closet bends (elbows) and offset closet flanges are frequently being used in current day construction. Item 1 is not any change to what was stated before.

Item 2- Four x 3 closet bends were commonly used many decades ago when these bends were made of lead. The item is carefully worded to make the intent clear that the bend is to be installed in the upright orientation (and not horizontally). Also, the wording indicates that the bend is not required to be directly connected to closet flange – there can be a vertical section of pipe between the upright bend and the closet flange.

Item 3-Offset closet flanges have been used for decades. Some jurisdictions are reluctant to allow any offset closet flanges because the code doesn't outright discuss the use offset flanges (nor does it prohibit them). Because some offset closet flanges are especially "restrictive looking", code officials didn't want to start allowing some types and not other types. This section is often cited as the basis for disapproving the use of all offset flanges. However, that doesn't seem completely appropriate as some offset closet flanges comply with the standards indicated for pipe fittings in Table 702.4. For example, the standard ASTM D2665 (for PVC fittings) references the standard ASTM D3311 for the patterns and dimensions of DWV fittings. Table 44 in ASTM D3311 shows two types of offset closet flanges. Thus, a code official denying the use of that particular offset closet flange might not be supported by what the code is allowing by Table 702.4. Therefore, Item 3 is being added to open the door for fittings that are already approved by inclusion in a referenced standard and any other offset closet flange that the code official thinks is acceptable.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 201.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II-IRC

Revise as follows:

P3005.1.6 Change No reduction in size in the direction of flow. The size of the drainage piping shall not be reduced in size in the direction of the flow. ~~A 4-inch by 3-inch (102 mm by 76 mm) water closet connection shall not be considered as a reduction in size.~~ The following shall not be considered a reduction in size in the direction of flow:

1. A 4-inch by 3-inch (102 mm by 76 mm) water closet flange.

2. A water closet bend fitting having a 4-inch (102 mm) inlet and a 3-inch (76 mm) outlet provided that the 4 inch leg of the fitting is upright and below, but not necessarily directly connected to, the water closet flange.

3. An *approved* offset closet flange.

Reason:

This section begs for clarification especially since 4 x 3 closet bends (elbows) and offset closet flanges are frequently being used in current day construction. Item 1 is not any change to what was stated before.

Item 2- Four x 3 closet bends were commonly used many decades ago when these bends were made of lead. The item is carefully worded to make the intent clear that the bend is to be installed in the upright orientation (and not horizontally). Also, the wording indicates that the bend is not required to be directly connected to closet flange – there can be a vertical section of pipe between the upright bend and the closet flange.

Item 3-Offset closet flanges have been used for decades. Some jurisdictions are reluctant to allow any offset closet flanges because the code doesn't outright discuss the use offset flanges (nor does it prohibit them). Because some offset closet flanges are especially "restrictive looking", code officials didn't want to start allowing some types and not other types. This section is often cited as the basis for disapproving the use of all offset flanges. However, that doesn't seem completely appropriate as some offset closet flanges comply with the standards indicated for pipe fittings in Table P3002.3. For example, the standard ASTM D2665 (for PVC fittings) references the standard ASTM D3311 for the patterns and dimensions of DWV fittings. Table 44 in ASTM D3311 shows two types of offset closet flanges. Thus, a code official denying the use of that particular offset closet flange might not be supported by what the code is allowing by Table P3002.3. Therefore, Item 3 is being added to open the door for fittings that are already approved by inclusion in a referenced standard and any other offset closet flange that the code official thinks is acceptable.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 201.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

34. IPC (IRC? NO) Section 709.3. Suggested rewording: "This is an estimated equivalency" and "the reverse is not true"

Maybe address continuous and semi-continuous issue too.

Jim

IPC

Revise as follows:

709.3 Conversion of gpm Values for continuous and semicontinuous flow into dfu values. Where discharges to a waste receptor or to a drainage system are only known in gallons per minute (liters per second) values, the drainage fixture unit values for continuous and semicontinuous those flows into a drainage system shall be computed on the basis that 1 gpm (0.06 L/s) of flow is equivalent to two drainage fixture units.

Reason:

This section is often misunderstood because of the vague and undefined terms “continuous” and “semicontinuous”. Also, some have interpreted that this is a conversion factor that works in both directions. It is not and was never intended to be because of the “probability of use” of a fixture that is incorporated in all dfu values. This equivalency is provided as an easy way to convert gallons per minute flows into an approximate dfu value so that the designer of the plumbing system can move forth with the design of the drainage system according to dfu sizing tables.

This wording only clarifies the intent of the existing section and does not add any new requirements.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 34.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

202. IPC (IRC? NO) Section 709.4. The first and the last “indirect” needs to be removed.

Accept: Janine

Staff note: This item was not duplicated in this list.

IPC

Revise as follows:

709.4 Values for indirect waste receptor. The *drainage fixture unit* load of an indirect waste receptor receiving the discharge of indirectly connected fixtures shall be the sum of the *drainage fixture unit* values of the fixtures that discharge to the receptor, but not less than the *drainage fixture unit* value given for the indirect waste receptor in Table 709.1 or 709.2.

Reason:

This is a simple cleanup of language for clarity. Although there could be an indirectly connected waste receptor, there is no such thing as an indirect waste receptor. Piping (discharging) to a waste receptor is often called indirect waste piping because the connection to the sanitary drainage system is indirect (through an air gap or air break). This section is not about the special circumstance of the outlet pipe from a waste receptor discharging to another waste receptor. For example, such as a floor drain in a refrigerated food storage room required to discharge to a waste receptor outside of the room.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 202.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

50. IPC (IRC? YES) Section 712.3.3. IS approval really needed?

Jim, Janine

Part I – IPC

Revise as follows:

712.3.3 Discharge pipe and fittings. Discharge pipe and fittings serving sump pumps and ejectors shall be constructed of materials in accordance with Sections 712.3.3.1 and 712.3.3.2 ~~and shall be approved.~~

Reason:

Subsections 712.3.3.1 and 712.3.3.1 provide enough guidance to the designer and installer for proper selection of discharge piping components such that there is not a need for the code official to further approve the selections. Besides, what other criteria would a code official use to grant approval?

712.3.3.1 Materials. Pipe and fitting materials shall be constructed of brass, copper, CPVC, ductile iron, PE, or PVC.

712.3.3.2 Ratings. Pipe and fittings shall be rated for the maximum system operating pressure and temperature. Pipe fitting materials shall be compatible with the pipe material. Where pipe and fittings are buried in the earth, they shall be suitable for burial.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 50.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II – IRC

Revise as follows:

P3007.3.3 Discharge pipe and fittings. Discharge pipe and fittings serving sump pumps and ejectors shall be constructed of materials in accordance with [Sections](#) P3007.3.3.1 and P3007.3.3.1 ~~and shall be approved.~~

Reason:

Subsections 712.3.3.1 and 712.3.3.1 provide enough guidance to the designer and installer for proper selection of discharge piping components such that there is not a need for the code official to further approve the selections. Besides, what other criteria would a code official use to grant approval?

P3007.3.3.1 Materials. Pipe and fitting materials shall be constructed of copper alloy, copper, CPVC, ductile iron, PE, or PVC.

P3007.3.3.2 Ratings. Pipe and fittings shall be rated for the maximum system operating pressure and temperature. Pipe fitting materials shall be compatible with the pipe material. Where pipe and fittings are buried in the earth, they shall be suitable for burial.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned

International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 50.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

113. IPC (IRC? YES) Section 712.4.2 – Specifically, the requirement for 1 inch solids handling capacity for pumps do not encompass the smaller pump systems used for individual fixtures such as pantry sinks, etc.

Bill, Shawn

Part I – IPC

Revise as follows:

712.4.2 Capacity. A sewage pump or sewage ejector shall have the capacity and head for the application requirements. Pumps or ejectors that receive the discharge of water closets shall be capable of handling spherical solids with a diameter of up to and including 2 inches (51 mm). Other pumps or ejectors shall be capable of handling spherical solids with a diameter of up to and including ~~1-inch (25.4 mm)~~ **½ inch (13 mm)**. The capacity of a pump or ejector based on the diameter of the discharge pipe shall be not less than that indicated in Table 712.4.2.

Exceptions:

1. Grinder pumps or grinder ejectors that receive the discharge of water closets shall have a discharge opening of not less than 1 1/4 inches (32 mm).
2. Macerating toilet assemblies that serve single water closets shall have a discharge opening of not less than 3/4 inch (19 mm).

Reason:

There are smaller pump systems used for individual fixtures such as pantry sinks and bar sinks that are only capable of passing ½ inch solids. These pumps have been successfully used in jurisdictions where these pumps were approved as an alternative method.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 113.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II – IRC**Revise as follows:**

P3007.6 Capacity. A sewage pump or sewage ejector shall have the capacity and head for the application requirements. Pumps or ejectors that receive the discharge of water closets shall be capable of handling spherical solids with a diameter of up to and including 2 inches (51 mm). Other pumps or ejectors shall be capable of handling spherical solids with a diameter of up to and including ~~1 inch (25.4 mm)~~ ½ inch (13 mm). The capacity of a pump or ejector based on the diameter of the discharge pipe shall be not less than that indicated in Table P3007.6.

Exceptions:

1. Grinder pumps or grinder ejectors that receive the discharge of water closets shall have a discharge opening of not less than 1 1/4 inches (32 mm).
2. Macerating toilet assemblies that serve single water closets shall have a discharge opening of not less than 3/4 inch (19 mm).

Reason:

There are smaller pump systems used for individual fixtures such as pantry sinks and bar sinks that are only capable of passing ½ inch solids. These pumps have been successfully used in jurisdictions where these pumps were approved as an alternative method.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 113.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

17. IPC (IRC? ~~YES~~ No). Section ~~301.6~~ 802.1. Indirect. This section needs to be located in Chapter 8 as chapter 8 states “ Fixtures not required by this section to be indirectly connected shall be directly connected”.

Add text of exception to 8 so it won't be overlooked.

Alex

IPC

Revise as follows:

802.1 Where required. Food-handling equipment, clear-water waste, dishwashing machines and utensil, pots, pans and dish washing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.8. Health-care related fixtures, devices and equipment shall discharge to the drainage system through an indirect waste pipe by means of an air gap in accordance with this chapter and Section 713.3. Fixtures not required ~~by this section~~ to be indirectly connected by this section and the exception of Section 301.6 shall be directly connected to the plumbing system in accordance with Chapter 7.

Reason:

The revised language resolves a conflict that has existed in the code for many cycles. The existing section language seemed to require that floor drains at the base of elevator shafts had to be direct connected to the drainage system. However, the exception of Section 301.6 requires that these floor drains must be indirectly connected to the drainage system.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 17.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

3. IPC (IRC? YES). Section 908.2 & 908.3. [Staff note: these are 2009 section numbers. 2012 Section numbers are 911.2, 911.3] The title of Common vent should read, Horizontal common vent. The text should be changed to: “Where two drains connect horizontally to a horizontal drain, their interconnection shall be at the same level through a double pattern fitting. The vent connection shall be at the interconnection of the fixture drains or downstream of the interconnection.

Maybe include a similar change to 911.3 Vertical Common Vent ?
Maybe need better words, maybe a definition. Need a figure?
Alex

Alex provided the following:

911.1 Individual vent as common vent. An individual vent is permitted to vent two traps or trapped fixtures as a common vent. The traps or trapped fixtures being common vented shall be located on the same floor level.

911.2 Horizontal common vent ~~Connection at the same level.~~ Where the two fixture drains ~~being common vented~~ connect horizontally to a horizontal drain at the same level, their ~~vent~~ connection shall be at the same level through a double pattern fitting. The vent connection shall be at the interconnection of the fixture drains being common vented or downstream of the interconnection.

STAFF NOTE: The suggestion seems to have lost the vertical common vent with fixture drains at the same level

911.3 Vertical common vent ~~Connection at different levels.~~ Where the fixture drains connect at different levels, the vent shall connect as a vertical extension of the vertical drain. The vertical drain pipe connecting the two fixture drains shall be considered the vent for the lower *fixture drain*, and shall be sized in accordance with Table 911.3. The upper fixture shall not be a water closet.

Fred adds back existing Section 911.3 to what Alex provided. CAC approves.

Part I-IPC

Revise as follows:

911.1 Individual vent as common vent. An individual vent ~~is~~ shall be permitted to vent two traps or two trapped-fixtures having integral traps as a common vent provided that the installation complies with Section 911.2, 911.3 or 911.4. The traps or trapped fixtures being common vented shall be located on the same floor level.

911.2 Horizontal common vent ~~Connection at the same level.~~ Where the two fixture drains ~~being common vented~~ connect horizontally to a horizontal drain at the same level, their ~~vent~~ connection shall be at the same level through a double pattern fitting. The vent connection shall be at the interconnection of the fixture drains being common vented or downstream of the interconnection.

911.3 Vertical common vent with connection at the same level. Where the two fixture drains being common vented connect horizontally to a vertical drain at the same level, their vent connection shall be through a double pattern fitting. The vent connection shall be at the interconnection of the fixture drains being common vented.

911.3 4 Vertical common vent with connection at different levels. Where the fixture drains connect at different levels, the vent shall connect as a vertical extension of the vertical drain. The vertical drain pipe connecting the two fixture drains shall be considered the vent for the lower *fixture drain*, and shall be sized in accordance with Table 911.3. The upper fixture shall not be a water closet.

Reason:

This proposal does not propose any new requirements but only provides clarification for what is already in the code (but is hard to understand).

Proposed revisions new section 911.3 and revised section 911.4 are the widely used and well known, vertical common vent arrangements that has been used for decades. Section 911.3 was extracted from the existing 911.2 in order to separate out the horizontal common vent application.

The code has allowed horizontal common venting for many decades but the language was not clear enough to be widely understood. The revised language should make the requirements clear.

A minor rewriting to Section P3107.1 provide the conditions under which the individual vent can be a common vent, ties the following sections into it and clarifies what “trapped fixtures” are.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 3.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II-IRC

Revise as follows:

P3107.1 Individual vent as common vent. An individual vent ~~is~~ shall be permitted to vent two traps or ~~two trapped~~ fixtures having integral traps as a common vent provided that the installation complies with Section P3107.2, P3107.2.3 or P3107.2.4. The traps or trapped fixtures being common vented shall be located on the same floor level.

P3107.2 Horizontal common vent ~~Connection at the same level.~~ Where the ~~two~~ fixture drains ~~being common vented~~ connect horizontally to a horizontal drain at the same level, their ~~vent~~ connection shall be at the same level through a double pattern fitting. The vent connection shall be at the interconnection of the fixture drains being common vented or downstream of the interconnection.

P3107.3 Vertical common vent with connection at the same level. Where the ~~two~~ fixture drains ~~being common vented~~ connect horizontally to a vertical drain at the same level, their vent connection shall be through a double pattern fitting. The vent connection shall be at the interconnection of the fixture drains being common vented.

P3107.3 4 Vertical common vent with connection at different levels. Where the fixture drains connect at different levels, the vent shall connect as a vertical extension of the vertical drain. The vertical drain pipe connecting the two fixture drains shall be considered the vent for the lower *fixture drain*, and shall be sized in accordance with Table P3107.3. The upper fixture shall not be a water closet.

Reason:

This proposal does not propose any new requirements but only provides clarification for what is already in the code (but is hard to understand).

Proposed revisions new section P3107.3 and revised section P3107.4 are the widely used and well known, vertical common vent arrangements that has been used for decades. Section P3107.3 was extracted from the existing P3107.2 in order to separate out the horizontal common vent application.

The code has allowed horizontal common venting for many decades but the language was not clear enough to be widely understood. The revised language should make the requirements clear.

A minor rewriting to Section P3107.1 provide the conditions under which the individual vent can be a common vent, ties the following sections into it and clarifies what “trapped fixtures” are.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 3.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

18. IPC (IRC? YES). Section 915. Combination Waste and Vent System – There needs to be greater definition and clarity in this entire section.

[Staff note: There were several errata for this section for the 2012 edition. See accessory documents].
Alex

Alex didn't provide any language but he did say this:

“I am seeking to alter the language in 915.2.4 to reflect single fixtures being combination vented and connecting to a properly vented horizontal drain OR even adding a new section like... **915.4 Combination Waste and Vent Single Fixtures** “

Here is the proposal (section text is based on 2015 text):

Part I -IPC

Revise as follows:

915.1 Type of fixtures. A combination waste and vent system shall ~~not only serve fixtures other than~~ floor drains, sinks, lavatories and drinking fountains. A combination waste and vent system shall be considered the vent for those fixtures. The developed length of a fixture drain to the combination waste and vent system piping shall not exceed the limitations of Table 909.1. Combination waste and vent systems shall not receive the discharge from a food waste disposer or clinical sink.

915.1.1 Single fixture systems. A horizontal fixture drain shall be considered a combination waste and vent system provided that the fixture drain size complies with Table 915.2.2.

915.2 Installation. The only vertical pipe of a combination waste and vent system shall be the connection between ~~the a~~ a fixture drain and ~~the a~~ a horizontal combination waste and vent pipe. The length of the vertical pipe ~~distance~~ shall not exceed 8 feet (2438 mm).

915.2.1 Slope. The slope of a horizontal combination waste and vent pipeing shall not exceed one-half unit vertical in 12 units horizontal (4-percent slope) and shall not be less than that indicated in Table 704.1.

915.2.2 Size and length. The size of a combination waste and vent pipeing shall not be less than that indicated in Table 915.2.2. The horizontal length of a combination waste and vent system shall be unlimited.

915.2.3 Vent connection. ~~The A~~ A combination waste and vent system shall be provided with a dry vent connected at any point within the system or the system shall connect to a horizontal drain or building drain, that serves vented fixtures located on the same floor. Combination waste and vent systems connecting to building drains receiving only the discharge from one or more stacks shall be provided with a dry vent. The dry vent connection ~~to the combination waste and vent pipe~~ shall extend vertically to a point not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented by the combination waste and vent system before horizontal offsets ~~in the dry vent piping are allowed.~~ ~~offsetting horizontally.~~

915.2.4 Vent size. The dry vent connected to the combination waste and vent system shall be sized for the total *drainage fixture unit* load in accordance with Section 906.2.

~~**915.2.5 Fixture branch or drain.** The fixture branch or fixture drain shall connect to the combination waste and vent within a distance specified in Table 909.1. The combination waste and vent pipe shall be considered the vent for the fixture.~~

Reason:

The primary reason for this proposal is to add new Section 915.1.1 to cover the very special situation of a single fixture combination waste and vent system.

Consider a 2 inch floor drain which by definition has a 2 inch trap. Where the floor drain is an emergency floor drain, Table 709.1 indicates that the dfu value is zero. Where the floor drain is not emergency floor drain, Table 709.1 indicates that the dfu value is 2. Where the floor drain is intended to receive only clear-water waste from certain types of equipment, Section 709.4.1 (through note h of Table 709.1), the dfu value is 1/2. For this example, consider that the floor drain is a 2 dfu value. Now review Table 915.2.2 and determine that a 2 inch combination waste and vent pipe can accommodate up to 3 dfu. Therefore, the 2 inch pipe from the trap of the 2 inch floor drain can be its own combination waste and vent system.

However, this is not readily apparent from existing language especially when reading existing Section 915.2.5. That section *seems* to indicate that the length of a fixture drain to its vent connection is always limited by the trap-to-vent distances in Table 909.1. The piping from any fixture trap to the vent connection is limited in length so that the vent

connection is not below the trap weir (see Section 909.1). Table 909.1 reflects the maximum length of the fixture drain at the indicated slopes so Section 909.1 is not violated. But where the fixture drain is “oversized” according to the requirements for a combination waste and vent system, then the limit on fixture drain length for these single fixture applications is meaningless. The fixture trap cannot siphon because the pipe is oversized for the intended dfu going into the drain.

For a better flow of requirements, Section 915.2.5 was merged into Section 915.1. This was important in order to move the requirement for meeting Table 909.1 *before* new Section 915.1.1 to make that new section make sense.

Several minor changes were made to other sections including changing *pipe* to *pipng*. Pipe implies a section of pipe without fittings. A combination waste and vent system can have horizontal bends. Some have misinterpreted that “pipe” meant that a CWV system only was allowed as a “straight run” system.

Another small but important change is in 915.2. Here, pipe really does mean pipe as in a straight run of pipe in vertical direction. Adding words to the last sentence will hopefully reinforce that it is not just the distance of 8 feet but a vertical pipe not longer than 8 feet. Note the definition for VERTICAL PIPE in chapter 2. A vertical pipe could have vertical offsets and still be considered vertical.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 18.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Part II-IRC

Revise as follows:

P3111.1 Type of fixtures. A combination waste and vent system shall ~~not only serve fixtures other than~~ floor drains, sinks, lavatories and drinking fountains. A combination waste and vent system shall be considered the vent for those fixtures. The developed length of a fixture drain to the combination waste and vent system piping shall not exceed the limitations of Table P3105.1. Combination waste and vent systems shall not receive the discharge from a food waste disposer.

P3111.1.1 Single fixture systems. A horizontal fixture drain shall be considered a combination waste and vent system provided that the fixture drain size complies with P3105.1.

P3111.2 Installation. The only vertical pipe of a combination waste and vent system shall be the connection between ~~the~~ a fixture drain and ~~the~~ a horizontal combination waste and vent pipe. The length of the vertical pipe ~~distance~~ shall not exceed 8 feet (2438 mm).

P3111.2.1 Slope. The slope of a horizontal combination waste and vent piping shall have a slope of ~~be~~ not greater than exceed one-half unit vertical in 12 units horizontal (4-percent slope). ~~The minimum slope and shall not be in accordance with less than that indicated in Section P3005.3 2.~~ → **This Section number change is ERRATA.**

P3111.3 Size and length. The size of a combination waste and vent piping shall not be less than that indicated in Table P3111.3. The horizontal length of a combination waste and vent system shall be unlimited.

P3111.2.2 Vent Connection. ~~The A combination waste and vent system shall be provided with a dry vent connected at any point within the system or the system shall connect to a horizontal drain or building drain, that serves vented fixtures located on the same floor. Combination waste and vent systems connecting to building drains receiving only the discharge from one or more stacks shall be provided with a dry vent. The dry vent connection to the combination waste and vent pipe shall extend vertically to a point not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented by the combination waste and vent system before horizontal offsets in the dry vent piping are allowed. offsetting horizontally.~~

P3111.2.3 Vent size. The dry vent connected to the combination waste and vent system shall be sized for the total drainage fixture unit load in accordance with Section P3111.1.

P3111.2.4 Fixture branch or drain. ~~The fixture branch or fixture drain shall connect to the combination waste and vent within a distance specified in Table P3105.1. The combination waste and vent pipe shall be considered the vent for the fixture.~~

Reason:

The primary reason for this proposal is to add new Section 915.1.1 to cover the very special situation of a single fixture combination waste and vent system.

Consider a 2 inch floor drain which by definition has a 2 inch trap. Where the floor drain is an emergency floor drain, Table P3004.1 indicates that the dfu value is zero. Where the floor drain is not emergency floor drain, note b indicates the dfu unit value is the summation of dfu discharging to the floor drain. For this example, consider that the floor drain is a 2 dfu value. Now review Table P3111.3 and determine that a 2 inch combination waste and vent pipe can accommodate up to 3 dfu. Therefore, the 2 inch pipe from the trap of the 2 inch floor drain can be its own combination waste and vent system.

However, this is not readily apparent from existing language especially when reading existing Section P3111.2.4. That section *seems* to indicate that the length of a fixture drain to its vent connection is always limited by the trap-to-vent distances in Table P3105.1. The piping from any fixture trap to the vent connection is limited in length so that the vent connection is not below the trap weir (see Section P3105.2). Table P3105.1 reflects the maximum length of the fixture drain at the indicated slopes so Section P3105.2 is not violated. But where the fixture drain is “oversized” according to the requirements for a combination waste and vent system, then the limit on fixture drain length for these single fixture applications is meaningless. The fixture trap cannot siphon because the pipe is oversized for the intended dfu going into the drain.

For a better flow of requirements, Section P3111.2.4 was merged into Section P3111.1. This was important in order to move the requirement for meeting Table P3105.1 before new Section P3111.1 to make that new section make sense.

Several minor changes were made to other sections including changing *pipe* to *piping*. Pipe implies a section of pipe without fittings. A combination waste and vent system can have horizontal bends. Some have misinterpreted that “pipe” meant that a CWV system only was allowed as a “straight run” system.

Another small but important change is in P3111.2. Here, pipe really does mean pipe as in a straight run of pipe in vertical direction. Adding words to the last sentence will hopefully reinforce that it is not just the distance of 8 feet but a vertical pipe not longer than 8 feet. Note the definition for VERTICAL PIPE in chapter 2. A vertical pipe could have vertical offsets and still be considered vertical.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 18.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

150. IPC (IRC? NO) Section 918.8. The coordinating IRC section was corrected for 2015. This section is about the prohibition of AAVs venting tanks unless the venting system was of an engineered design. Current IPC text is incorrect wording. Correlation.

Janine

IPC

Revise as follows:

918.8 Prohibited installations. Air admittance valves shall not be installed in nonneutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials *approved* in accordance with [Section 702.5](#) and are tested for chemical resistance in accordance with ASTM F 1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums. Air admittance valves ~~without an engineered design~~ shall not be ~~utilized~~ used to vent sumps or tanks ~~of any type~~ except where the vent system for the sump or tank has been designed by an engineer.

Reason:

The IRC already has this correction/clarification made in the last cycle and this proposal is for coordination with that IRC change.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple

conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 150.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

2. IPC (IRC? YES). Section ~~905.3~~ 918.8. Vent connections. Add the following sentence: “Vents shall not connect to the drainage system from the fixture outlet to the trap outlet where slip joints are used. Lots of discussion, potentially affects Section 918 ?

Alex

The issue is the use of the AAVs on a slip joint-connected lav or sink assembly. It is too easy for the trap to be replaced with a standard trap (without an AAV connection) and no one is the wiser. Yet, the AAV could be serving as the vent for a horizontal wet vented bathroom group..... ! Someone trying to figure out why there are venting problems in the system would have no indication that the trap had been replaced with a non-AAV equipped trap.

Where the AAV is part of the drainage system (piping is glued in place with a stub up for the AAV) it would be more difficult to cut that out to get rid of the AAV and thus, someone is more likely to just replace the AAV rather than to rework hard piping. It’s just too easy to replace a slip-joint trap having an AAV connection on the trap arm.

Alex provided this:

905.3 Vent connection to drainage system. Every dry vent connecting to a horizontal drain shall connect above the centerline of the horizontal drain pipe. Vents shall not connect to the drainage system from the fixture outlet to the trap outlet where slip joints are used.

Part I-IPC

Revise as follows:

918.8 Prohibited installations. Air admittance valves shall not be installed in nonneutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials *approved* in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F 1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums. Air admittance valves without an engineered design shall not be utilized to vent sumps or tanks of any type. Air admittance valves shall not be connected to waste piping where a slip joint connection is downstream of the air admittance valve connection.

Reason:

This proposal is not an attempt to limit the use of Air Admittance Valves (AAVs) in any way. AAVs have been in the code for many code cycles and are understood to be a viable venting method where used in accordance with the provisions of the code. This proposal is attempting to prevent an “unintended consequence” of a specific arrangement of AAV installation. Consider the following (extremely common) application for an AAV: A lavatory in a toilet facility or bathroom. A quite common venting method used is the horizontal wet venting method where the vent for the lavatory serves as the venting for the water closets and bathtub/shower in the toilet facility or bathroom. An AAV can be used for the lavatory vent. There is not a problem with use of an AAV in this situation. However, where the AAV is part of a tubular waste assembly (with the AAV downstream of the trap and a slip joint downstream of the AAV connection), there is a possibility that the trap will be replaced with a non-AAV trap and no one will be the wiser. Unfortunately, this will leave the bathroom group without a vent.

It is just too easy for this type of AAV arrangement to be replaced. In a public toilet facility, vandalism can occur where trim and fixtures must be replaced. This type of AAV trap can “disappear” in the process as they are somewhat of a specialty item and certainly have a higher cost than a standard trap. Allowing AAV’s into the code came with the code requirements intent that the presence of these devices would be apparent (review Sections 918.4 through 918.8). For example, where located in an attic, an AAV has to be above the insulation. Where stack type AAV’s are used they have to be located 6 inches above the flood level rim of the served fixtures. Although AAV’s can be concealed, they must be provided with access. In other words, you have to be able to see that there is a location for installation of the AAV. Removal of an AAV trap with a slip joint connection downstream doesn’t leave any evidence that an AAV was there or was supposed to be there.

Again, this is not to say that a AAV cannot be used for venting a lavatory. To comply with the proposed limitation, the installer simply has to “hard pipe” for the AAV. In that manner, there is a fixed connection for the AAV that is not easily removable in the future.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 2.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, there will be a few more pipe fittings and a slightly more labor required at set out (fixture installation) to facilitate the “hard piped” AAV connection. Because the AAV was already going to be used, there is no extra cost for an AAV.

Part II-IRC**Revise as follows:**

3114.8 Prohibited installations. Air admittance valves shall not be used to vent sumps or tanks except where the vent system for the sump or tank has been designed by an engineer. Air admittance valves shall not be connected to waste piping where a slip joint connection is downstream of the air admittance valve connection.

Reason:

This proposal is not an attempt to limit the use of Air Admittance Valves (AAVs) in any way. AAVs have been in the code for many code cycles and are understood to be a viable venting method where used in accordance with the provisions of the code. This proposal is attempting to prevent an “unintended consequence” of a specific arrangement of AAV installation. Consider the following (extremely common) application for an AAV: A lavatory in a toilet facility or bathroom. A quite common venting method used is the horizontal wet venting method where the vent for the lavatory serves as the venting for the water closets and bathtub/shower in the toilet facility or bathroom. An AAV can be used for the lavatory vent. There is not a problem with use of an AAV in this situation. However, where the AAV is part of a tubular waste assembly (with the AAV downstream of the trap and a slip joint downstream of the AAV connection), there is a possibility that the trap will be replaced with a non-AAV trap and no one will be the wiser. Unfortunately, this will leave the bathroom group without a vent.

It is just too easy for this type of AAV arrangement to be replaced. In a public toilet facility, vandalism can occur where trim and fixtures must be replaced. This type of AAV trap can “disappear” in the process as they are somewhat of a specialty item and certainly have a higher cost than a standard trap. Allowing AAV’s into the code came with the code requirements intent that the presence of these devices would be apparent (review Sections P3114.4 and P3114.5). For example, where located in an attic, an AAV has to be above the insulation. Where stack type AAV’s are used they have to be located 6 inches above the flood level rim of the served fixtures. Although AAV’s can be concealed, they must be provided with access. In other words, you have to be able to see that there is a location for installation of the AAV. Removal of an AAV trap with a slip joint connection downstream doesn’t leave any evidence that an AAV was there or was supposed to be there.

Again, this is not to say that an AAV cannot be used for venting a lavatory. To comply with the proposed limitation, the installer simply has to “hard pipe” for the AAV. In that manner, there is a fixed connection for the AAV that is not easily removable in the future.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 2.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, there will be a few more pipe fittings and a slightly more labor required at set out (fixture installation) to facilitate the “hard piped” AAV connection. Because the AAV

was already going to be used, there is no extra cost for an AAV. Would the builder or developer be charged more for this? It is very doubtful because the plumbing installer is already saving money on not installing vent piping.

168. IPC (IRC? NO) Section 1106.5. Current language in the 2012 IPC and IBC implies that scuppers are only approved for secondary roof drainage. It has been a long standing practice in Phoenix to allow the use of scuppers as primary roof drains and to focus on the opening width. It is common to see the primary and secondary scuppers side-by-side in Phoenix. This proposal adds the acceptance of scuppers as primary roof drains, matches the sizing criteria found for the secondary scuppers in IPC 1108.3 and IBC 1503.4.2, and uses an established opening width sizing criteria.

IPC

Revise as follows:

1106.5 Parapet wall scuppers location. ~~Parapet wall roof drainage scupper and overflow scupper location shall comply with the requirements of Section 1503.4 of the *International Building Code*. Where scuppers are used for primary roof drainage or for secondary (emergency overflow) roof drainage or both, the quantity, size, location and inlet elevation of the scuppers shall be chosen to prevent the depth of ponding water on the roof from exceeding the maximum water depth that the roof was designed for as determined by Section 1611.1 of the *International Building Code*. Scupper openings shall be not less than 4 inches (102 mm) in height and have a width that is equal to or greater than the circumference of a roof drain sized for the same roof area. The flow through the primary system shall not be considered when locating and sizing secondary scuppers.~~

1108.3 Sizing of secondary drains. Secondary (emergency) roof drain systems shall be sized in accordance with Section 1106 based on the rainfall rate for which the primary system is sized in Tables 1106.2(1), 1106.2(2), 1106.3 and 1106.6. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall have an opening dimension of not less than 4 inches (102 mm) in height and have an opening width equal to the circumference of the roof drain required for the area served, sized in accordance with Table 1106.2(1). The flow through the primary system shall not be considered when sizing the secondary roof drain system.

Reason:

The current language in the IPC and IBC implies that scuppers are only approved for secondary roof drainage. However, there are many areas of the country where scuppers are used for the primary roof drain system with another set of scuppers (installed at a higher elevation) used for the secondary drainage system. Where scuppers are used for primary system, there needs to be method to equate the code required drain size to a scupper opening width. A simple design criteria of the scupper width equaling the circumference of the code required primary roof drain has worked very well in such areas such as Phoenix where buildings are subject to annual monsoon thunderstorms in the summer.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 168.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

IRC ONLY

145. IRC (IPC? NO) Section P2902.5.4. There is a possible conflict between this section and the last line of Section P2904.1. Is a backflow preventer required between *standalone* sprinkler system installed in accordance with the IRC (Section P2904?) and the water distribution system? Combine with other backflow issues.

Mike, Janine.

Input from Jeff Shapiro:

Jeff says:

“This item was previously identified by California, and Julius Ballanco and I helped them develop a local amendment, which I believe was adopted to address the concern. Below is similar to what we gave to CA for their review. I had planned to submit this, but if PMGCAC can commit to doing it, that’s fine by me (or we could show it as a joint submittal with the IRC Fire Sprinkler Coalition and/or an agency from California).”

IRC

Revise as follows:

P2904.1 General. The design and installation of residential fire sprinkler systems shall be in accordance with NFPA 13D or Section P2904, which shall be considered equivalent to NFPA 13D. Partial residential sprinkler systems shall be permitted to be installed only in buildings not required to be equipped with a residential sprinkler system. Section P2904 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. ~~A backflow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system.~~

P2904.1.1 Backflow protection. A backflow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system, provided that the sprinkler system complies with all of the following:

1. The system complies with NFPA 13D or Section P2904.
2. The piping material complies with Section P2905.
3. The system does not contain antifreeze.
4. The system does not have a fire department connection.

(Renumbering of existing Section P2904.1.1 is automatic.)

P2902.5.4 Connections to automatic fire sprinkler systems. The potable water supply to automatic fire sprinkler systems shall be protected against backflow by a double check backflow prevention assembly, a double check fire protection backflow prevention assembly, a reduced pressure principle backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly.

Exception: ~~Where sprinkler systems are installed in accordance with Section P2904.1.1, Where systems are installed as a portion of the water distribution system in accordance with the requirements of this code and are not provided with a fire department connection,~~ backflow protection for the water supply system shall not be required.

Reason: The proposed revision clarifies the code by coordinating the requirements in Sections P2902.5.4 with P2904.1. The allowance to omit backflow protection for certain stand-alone systems currently permitted by Section P2904.1 was not previously correlated with Section P2902.5.4, which has caused confusion in applying the code. The proposed text further improves usability of the code by placing a complete backflow preventer exception in the proposed Section P2904.1.1 rather than the current approach, which covers multipurpose systems in Section P2902.5.4 and standalone systems in Section P2904.1.

The proposed revision also makes it clear that the permissible exception to backflow protection applies to systems installed to either Section P2904 or NFPA 13D, and it corrects an oversight in the current code text related to fire department connections, making it clear that backflow protection may not be omitted on any system, stand-alone or multipurpose, that is provided with a fire department connection. Although fire department connections aren't required by Section P2904 and aren't ordinarily installed on home fire sprinkler systems, the possibility that such a connection might be voluntarily provided must be addressed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 145.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

149. IRC (IPC? NO). Section P2903.4. See RP83-13 (failed). This concerns thermal expansion control. The IPC and the IRC are now different. For coordination, these need to be the same.
Janine

This is what was proposed last time. Propose the same???:

IRC

Revise as follows:

P2903.4 Thermal expansion control. ~~A means for controlling increased pressure caused by thermal expansion shall be installed where required in accordance with Sections P2903.4.1 and P2903.4.2. Where a storage water heater is supplied with cold water that passes through a check valve, pressure reducing valve or backflow preventer, a thermal expansion tank shall be connected to the water heater cold water supply pipe at a point that is downstream of all check valves, pressure reducing valves and backflow preventers. Thermal expansion tanks shall be sized in accordance with the tank manufacturer's instructions and shall be sized such that the pressure in the water distribution system shall not exceed that required by Section P2903.3.1.~~

~~**P2903.4.1 Pressure-reducing valve.** For water service system sizes up to and including 2 inches (51 mm), a device for controlling pressure shall be installed where, because of thermal expansion, the pressure on the downstream side of a pressure-reducing valve exceeds the pressure-reducing valve setting.~~

~~**P2903.4.2 Backflow prevention device or check valve.** Where a backflow prevention device, check valve or other device is installed on a water supply system using storage water heating equipment such that thermal expansion causes an increase in pressure, a device for controlling pressure shall be installed.~~

Reason:

Any location there is a pressure reducing device, a check valve or a backflow preventer in the cold water piping to a storage-type water heater, a means to compensate for thermal expansion must be installed. This is typically accomplished with an expansion tank. Other methods for relieving thermal expansion pressure, such additional relief valves, waste water for the life of the system. Thermal expansion tanks are required by most storage water heater manufacturers to protect the water heater. Expansion tank manufacturers typically size their tanks so that the water distribution system pressure will remain just shy of the pressure required to open a 150 psi water heater relief valve. This will allow the system pressure to exceed the maximum pressure intended by Section P2903.3.1, which is unacceptable. A similar proposal for the 2015 IPC was Approved as Submitted.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 149.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, there will be the added cost for a thermal

expansion tank and the labor to connect it to the piping versus the cost and labor to install a relief valve that discharges a small amount of water to relieve thermal expansion caused pressure. Where specialized water closet tank fill valves were used for the relief, the change might result in no cost impact at all. Where use of a relief valve (before) required a drain to be installed for capturing the discharge, installing a thermal expansion tank might cost less than the drain installation.

130. IRC New Section P2906.6.1 (???). “The use of saddle tap fittings or combination saddle tap and valve fittings shall be prohibited.” The IPC has prohibited these for a long time. We have seen and heard about saddle tap fittings being used on PEX and CPVC tubing.
Correlation only.

IRC

Add new text as follows:

P2906.6.1 Saddle tap fittings. The use of saddle tap fittings and combination saddle tap and valve fittings shall be prohibited.

Reason:

As PEX, PE-RT and CPVC tubings are becoming even more popular than ever for water distribution systems in residential buildings, there are more reports of saddle tap fittings being installed on these types of tubing. This just doesn't work out very well. The IRC does not require that refrigerator ice maker water supply connection boxes be installed at rough-in. And the installation of reverse osmosis drinking water systems is becoming quite popular. Where can someone tap into the water distribution system for the supply of water? A saddle tap is quick and easy but is subject to being bumped and twisted. Where the tap is a combination tap and valve, operation of the valve makes the potential for leakage problems greater.

This connection method should be prohibited just like it has been prohibited in the IPC for some time.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 130.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. For those plumbing contractors that were trying to legally cut corners in every way possible, there will be the minor added cost for a tee installation. Can they convince the builder or

developer that they should be paid more for their work because of this change? It would be very, very doubtful that the builder or developer will be impacted with this minor cost addition.

ISPSC

108. ISPSC Chapter 2. Add new definitions

[STAFF NOTE: Related to the CTC PROPOSAL 2 that CTC presented to the CAC]

Carvin says: See his comment for #72

[Staff note: These are definitions used in the IMC. These will be requested for scoping to IMC [M] for control before printing].

ISPSC

Add new definitions:

READY ACCESS. That which enables a fixture, appliance or equipment to be directly reached without requiring the removal or movement of any panel, door or similar obstruction and without the use of a portable ladder, step stool or similar device.

ACCESS (TO). That which enables a fixture, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door similar obstruction (see "Ready access").

Reason:

There are several locations where these terms are used in the ISPSC however, without these definitions, the true meaning of the terms are not clear. These definitions are identical to the IMC definitions for these terms. The IMC has scoping control of these defined terms where they are used in all codes except for the IRC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 108.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Analysis:

These proposed defined terms for the ISPSC will be requested to be included under the IMC scoping during scoping update review and approval by the committee responsible for evaluating scoping updates.

12. ISPSC. SHALLOW AREAS definition of 5 feet conflicts with the shallow area depth 4 feet in Section 807.2.
Carvin

CAC says to change the depth in SHALLOW AREAS definition to 4 feet.

ISPSC

Revise as follows:

SHALLOW AREAS. Portions of a pool or spa with water depths less than ~~5 feet (1524 mm)~~ 4 feet (1219mm).

Reason:

This proposal resolves a conflict between the definition of SHALLOW AREA and what is stated as a shallow area in Section 807.2. The change was made in the conservative direction.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 12.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

13. ISPSC. SWIMOUT definition. The second sentence (a requirement) needs to be moved into the code text. The definition conflicts with Figure 322.2.

Carvin

Carvin says:

OK on moving second sentence to mandatory part of code. Suggest changing Swimout definition to delete the words "*perimeter shape*" of the pool and replace with "*diving envelope*"

CAC says do what Carvin says above.

ISPSC

Revise as follows:

SWIMOUT. An underwater seat area that is placed completely outside of the diving envelope ~~perimeter shape of the a~~ pool. ~~Where located at the deep end, swimouts are permitted to be used as the deep end means of entry or exit to the pool.~~

Staff note: In Sections 411.1.3 and 809.2 "swimout" is already in the laundry list for public pool entry and exit. Therefore, there is not a need to put that second sentence someplace else as it is already covered.

Reason:

A swimout is not required to be outside of the perimeter shape of a pool. Many times they are located on those areas but they are not required to be. This revised wording agrees with Figure 322.2.

The second sentence is a requirement and requirements should not be in code definitions. Requirements belong in the code text (Chapters 3 through 10). There was no need to add this requirement to the code as it is already in Sections 411.1.3 and 809.2.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 13.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

40. ISPSC. Section 202 Definition. UNDERWATER LEDGE “whose dimensions.....” What standard? Can’t the information be put into the code??
Carvin

Carvin says:

See Residential Pools- See offset ledges Section 5.4 in ANSI/APSP/ICC -5-2011 Public Pools -See ANSI/APSP/ICC-2-2014 Section 6.7 Rest ledges.

CAC says to remove underwater ledge definition from the code. It is only used in the “underwater seat” definition. Here’s the proposal:

ISPSC

Delete without substitution:

~~**UNDERWATER LEDGE.** A narrow shelf projecting from the side of a vertical structure.~~

Reason:

The phrase UNDERWATER LEDGE is only used in the definition of UNDERWATER SEAT and nowhere else in the code. There is no a need for this definition as it is clear by the description of UNDERWATER SEAT.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 40.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

105. ISPSC Section 302.6. Needs to be a requirement for indirect connection of waste water.
Shawn, Carvin

ISPSC

Revise as follows:

302.6 Wastewater discharge. Where wastewater from pools or spas, ~~such as~~ backwash ~~water~~ from filters and water from deck drains, discharges to ~~the~~ a building drainage system, the connection shall be through an air gap ~~such~~ installation shall be in accordance with the *International Plumbing Code* or the *International Residential Code* as applicable in accordance with Section 102.7.1.

Reason:

This simple rewording clarifies the intent that water being discharged to a building drainage system must do so through an air gap. It is paramount that sewage not come in contact with water systems around a pool or spa.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 105.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

41. ISPSC. Section 305.1. Last two sentences are commentary and should be removed. The exceptions really don't fit correctly because the main paragraph does not have the requirements that are being excepted from. The section needs to be rewritten.

Carvin

CAC reviewed and agrees to take out last two sentences. Sections 305.6 and 305.7 don't seem to fit in the section?.

ISPSC

Revise as follows:

305.1 General. ~~The provisions of this section shall apply to the design of barriers for restricting entry into areas having for pools and spas. These design controls are intended to provide protection against the potential drowning and near drowning by restricting access to such vessels. These requirements provide an integrated level of protection against potential drowning through the use of physical barriers and warning devices. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F 1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F 1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 305.2 through 305.7.~~

Exceptions:

- ~~1. Spas and hot tubs with a lockable safety cover that complies with ASTM F 1346.~~
- ~~2. Swimming pools with a powered safety cover that complies with ASTM F 1346.~~

Reason:

The last two sentences in the existing section appear to be commentary so they should be removed. The exceptions really don't fit correctly because the main paragraph does not have requirements that the exceptions work with.

The proposed revised language better identifies what Section 305 is about which is the design of barriers for restricting entry into areas having pools and spas. The new last sentence simply says, where a pool or spa has a safety cover, compliance with the remainder of the section is not required. No new requirements are being presented by this proposal.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 41.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

CTC/PMG Proposal 4

ISPSC

Revise as follows:

305.3 Gates. Access gates shall comply with the requirements of Sections 305.3.1 through 305.3.3 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device.

305.3.3 Latches. For residential pools, the operable parts of the release of latch on self-latching device shall be located at 54 inches (1372 mm) maximum above the finished floor or ground. Where the release mechanism of the self-latching device is located less than 54 inches (1372) above the finished floor or ground from grade, the release mechanism shall be located on the pool or spa side of the gate not less than 3 inches (76 mm) below the top of the gate, and the gate and barrier shall not have openings greater than 1/2 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism. For public pools, for latches on gates along the accessible route, the operable parts of the self-latching devices shall comply with Section 1010.1.9.2 of the International Building Code.

305.4 Structure wall as a barrier. Where a wall of a dwelling or structure serves as part of the barrier and where doors or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

1. Operable windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor and doors shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be *listed and labeled* as a water hazard entrance alarm in accordance with UL 2017. In ~~dwelling units~~ dwelling units not required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located 54 inches (1372 mm) or more above the finished floor. In ~~dwelling units~~ dwelling units required to be Accessible units, Type A units or Type B units, or in structures where the swimming pool is required to be accessible, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the finished floor.
2. A *safety cover* that is *listed and labeled* in accordance with ASTM F 1346 is installed for the pools and spas.
3. An *approved* means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by Item 1 or 2.

Reason: The intent of the changes is to coordinate the locking arrangements on gates and doors for public pools with the allowances worked out in the IBC as part of the coordination with ADA. The definition for public pool and residential pool would determine where accessibility is appropriate.

The 2015 IBC reads as follows:

IBC 1010.1.9.2 Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor. Locks used only for security purposes and not used for normal operation are permitted at any height.

Exception: Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener or integral combination lock.

IBC 1109.13 Controls, operating mechanisms and hardware. Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.

Exceptions:

1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to be accessible.
2. Electrical or communication receptacles serving a dedicated use shall not be required to be accessible.
3. Where two or more outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one outlet shall not be required to be accessible.

4. Floor electrical receptacles shall not be required to be accessible.
5. HVAC diffusers shall not be required to be accessible.
6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to be accessible.
7. Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to comply with Section 1010.1.9.2.

Statement trailing the reason:

NEED CTC Blurb as well

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is CTC/PMG Proposal Item 4.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

42. ISPSC. Section 306.1. The beginning needs to be rewritten to remove the implication that decks are required. “The *structural* design and the installation of decks shall”. Furthermore, at what point away from the pool or spa does the deck become just a normal deck and not a pool deck?
Carvin

Carvin says:

Decks, *(when, if)* installed shall be in accordance...

CAC generally agrees but wants to add, “and this section” (and don’t mention anything about a deck distance).

Here’s the proposal:

ISPSC

Revise as follows:

306.1 General. The structural design and installation of decks around pools and spas shall be ~~designed and installed~~ in accordance with the *International Residential Code* or the *International Building Code*, as applicable in accordance with Section 102.7, and ~~except as provided~~ in this section.

Reason:

The arrangement of the first part of the existing code section can be read “Decks shall be.... installed....”. In other words, one interpretation of this section might conclude that decks are required for every pool and spa. This is not what was intended by the section. This section is only requiring that the design and installation of decks be in accordance with the applicable codes. The revise language clarifies the intent.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This PMGCAC Item 42.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

43. ISPSC. Section 307.1. The exception needs to be moved to each of Sections 307.3, 307.4, 307.5, and 307.6.

Carvin

Carvin says he agrees. CAC agrees but thinks maybe there is a way to re-organize these sections for a more logical way to present the requirements.

ISPSC

Revise as follows:

307.1 General design requirements. Sections 307.1.1 through 307.1.4 shall ~~The provisions of this section~~ apply to all pools and spas.

~~**Exception:** The provisions of Sections 307.3 through 307.6 do not apply to *listed and labeled portable residential spas* and *listed and labeled portable residential exercise spas*.~~

307.2 1.1 Glazing in hazardous locations. Hazardous locations for glazing shall be as defined in the *International Building Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1 of this code. Where glazing is determined to be in a hazardous location, the requirements for the glazing shall be in accordance with those codes, as applicable.

307.7 1.2 Colors and finishes. For other than *residential* pools and *residential spas*, the colors, patterns, or finishes of the pool and spa interiors shall not obscure objects or surfaces within the pool or spa.

Exception: ~~Residential pools and spas.~~

307.8 1.3 Roofs or canopies. Roofs or canopies over pools and spas shall be in accordance with the *International Building Code* or *International Residential Code*, as applicable in accordance with Section 102.7.1 and shall be constructed so as to prevent water runoff into the pool or spa.

307.9 1.4 Accessibility. An accessible route to the public pool or spa shall be provided in accordance with the *International Building Code*. Accessibility within the public pools and spa shall be provided as required by the accessible recreational facilities provisions of the *International Building Code*. Accessibility for pools and spas accessory to detached one- and two-family dwellings and townhouses not more than three stories in height shall be provided where required by the *International Residential Code*.

307.2 Specific design and materials requirements. Sections 307.2.1 through 307.2.4 shall apply to all pools and spas except for *listed* and *labeled* portable *residential* spas and *listed* and *labeled* portable *residential* exercise spas.

307.3 2.1 Materials. Pools and spas and appurtenances thereto shall be constructed of materials that are nontoxic to humans and the environment; that are generally or commonly regarded to be impervious and enduring; that will withstand the design stresses; and that will provide a watertight structure with a smooth and easily cleanable surface without cracks or joints, excluding structural joints, or that will provide a watertight structure to which a smooth, easily cleaned surface/finish is applied or attached. Material surfaces that come in contact with the user shall be finished, so that they do not constitute a cutting, pinching, puncturing or abrasion hazard under casual contact and intended use.

307.3.4 2.1.1 Beach pools. Clean sand or similar material, where used in a beach pool environment, shall be used over an impervious surface. The sand area shall be designed and controlled so that the circulation system, maintenance, safety, sanitation, and operation of the pool are not adversely affected.

307.3.2 2.1.2 Compatibility. Assemblies of different materials shall be chemically and mechanically compatible for their intended use and environment.

307.4 307.2.2 Materials and structural design. Pools and spas shall conform to one or more of the standards indicated in Table ~~307.4~~ 307.2.2. The structural design of pools and spas shall be in accordance with the *International Building Code* or *International Residential Code*, as applicable in accordance with Section 102.7.1.

**TABLE ~~307.4~~ 307.2.2
RESERVOIRS AND SHELLS**

(Portions of table not shown remain unchanged)

307.4.4 307.2.2.1 Installation. Equipment for pools and spas shall be supported to prevent damage from misalignment and settling and located so as to allow access for inspection, servicing, removal and repair of component parts.

307.5 2.3 Freeze protection. In climates subject to freezing temperatures, outdoor pool and spa shells and appurtenances, piping, filter systems, pumps and motors, and other components shall be designed and constructed to provide protection from damage from freezing.

307.6 2.4 Surface condition. The surfaces within public pools and spas intended to provide footing for users shall be slip resistant and shall not cause injury during normal use.

Reason:

The existing layout of Section 307 does work very well when attempting apply the Exception in Section 307.1 to only a portion of the sections in Section 307. Generally, good format for an exception is to have the exception “attached” to every section that the exception applies to. This makes the code difficult to read whereas a reorganization is often a better way to accomplish the goal which in this case, is to exempt portable spas from complying with some (but not all) of the requirements in Section 307. Although there is a significant moving around of language and some new sections to accommodate the reorganization, no new requirements are being introduced.

Section 307.1 (and its subsections) are general requirements that apply for all pools and spas.

Section 307.2 (and its subsections) are more specific requirements except those requirements do not apply to *listed and labeled* spas. Remember that specific requirements for *listed and labeled* spas are covered by Chapter 9.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 43.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

CTC/PMG Proposal 5

PMGCAC agrees with this.

ISPSC

Revise as follows:

307.9 Accessibility. An accessible route to public pools and spas shall be provided in accordance with the *International Building Code*. Accessibility within public pools and spas shall be provided as required by the accessible recreational facilities provisions of the *International Building Code*. ~~Accessibility for pools and spas accessory to detached one and two-family dwellings and townhouses not more than three stories in height shall be provided where required by the *International Residential Code*.~~

Reason: In Section 307.9, the last sentence not only adds confusion, and should be deleted. There is nothing in the IRC that addresses accessibility in pools and spas. Recreational facilities that serve multiple townhouses would be addressed in the IBC. This is CTC/PMG Proposal Item 5

Statement trailing the reason:

Need CTC Blurb

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

44. ISPSC. Section 308.3 Totally inappropriate language. Needs re-written with mandatory language. Carvin

Carvin is asked about “shall not affect??” This section is about the impact on circulation and safety issues.

CAC agrees

ISPSC

Revise as follows:

308.3 Dimensions and shape. ~~The code is not intended to regulate the shape of pools and spas other than to take into account the effect that a given shape will have on the safety of the occupants and to maintain the minimum required level of circulation to ensure sanitation.~~ The dimensions and shape of a pool or spa shall not be limited provided that water circulation is provided for every water area, underwater areas are designed to avoid entrapment of bathers and, where regulated by other sections of the code, perimeter access is provided for the pool or spa.

Reason:

The existing language seemed to be more of a commentary statement than a requirement. However, there was an underlying intent to the words that needed to be brought out about the general design (dimension and shape) that is critical for the safety of users. Simply stated, you can make a pool or spa any shape or size provided that water circulation, perimeter access and avoidance of bather entrapment is provided for.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 44.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

8. ISPSC Section 311.3. This section needs to be updated to replace the existing language because APSP-7 2013 (a new standard) no longer states water velocity requirements deferring to the properly installed suction outlet cover/grate to ensure safe operating velocity.

Carvin

Carvin provided:

Need to add two new sections to ISPSC: **Residential Pools and Spas**-The water velocity in the pool, spa, swim spa shall not exceed 8 feet per second for both the suction and pressure piping and shall comply with Sections 310.1 and 311.4.1 **Public Pools and Spas** - The water velocity in public pools and spas shall not exceed 10 ft per second for discharge piping (except for copper pipe where the velocity shall not exceed 8 ft per second) and 6 ft per second for suction piping, and 1 and 1/2 ft per second flow rate through the grates. Pool piping shall be sized to permit the rated flows for filtering and cleaning without exceeding the operating head of the pump and shall comply with Sections 310.1 and 311.4.1

The existing 2015 ISPSC language is:

311.3 Water velocity. The *water velocity* in return lines shall not exceed 8 feet (2.4 m) per second. The water velocity in suction piping shall be as required by Section 310.

CAC agrees with the following:

ISPSC

Revise as follows:

311.3 Water velocity. The water velocity in suction and return lines piping shall comply with either Section 311.3.1 or 311.3.2, not exceed 8 feet (2.4 m) per second. ~~The water velocity in suction piping shall be as required by Section 310.~~ Pool piping sizes shall be chosen so that at the rated flows for the filtering and cleaning equipment, the operating head of the pump is not exceeded. The water velocity in copper and copper alloy piping shall not exceed 8 fps (2.4 mps).

311.3.1 Public pool and spas. For *public* pools and spas, suction piping water velocity shall not exceed 6 fps (1.8 mps), return piping water velocity shall not exceed 10 fps (3.0 mps) and water velocity through grates shall not exceed 1.5 fps (0.5 mps) except where compliance with Section 310 further limits the water velocities in piping and grates.

311.3.2 Residential pools and spas. For *residential* pools and spas, the water velocity in suction piping and return piping shall not exceed 8 fps (2.4 mps) except where compliance with Section 310 further limits the water velocities in suction and return piping.

Reason:

APSP 7-2013 (which is referenced by the 2015 ISPSC) has some different requirements (than the previous edition) with respect to sizing of circulation piping. The ISPSC needs to be updated and clarified so that there is not confusion when comparing the requirements of APSP and the code.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 8.

Cost Impact:

Will increase the cost of construction

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, in some cases, the suction piping might have to be larger in order to control the velocity through the suction outlet grate. The requirement for larger piping will have additional cost in both material and labor.

107. ISPC Section 313.7. This section needs modified to make the requirement for ready access to the switch.

Carvin

ISPC

Revise as follows:

313.7 Emergency shutoff switch. An emergency shutoff switch shall be provided to disconnect all power to recirculation and jet system pumps and air blowers. Emergency shutoff switches shall be: provided with ready access; be located within sight of the pool or spa, and be located not less than 5 feet (1524mm) horizontally from the an inside walls of the pool or spa that is served by the pumps and blowers controlled by the switch.

Add new text:

READY ACCESS. That which enables a fixture, appliance or equipment to be directly reached without requiring the removal or movement of any panel, door or similar obstruction and without the use of a portable ladder, step stool or similar device.

Reason:

The emergency shutoff switch should be out in the open and not behind a panel so it is obvious where the switch is for fast access. Using the term “ready access” along with the IMC definition, will make this clear.

The definition is identical to the IMC definition for this term. The IMC has scoping control of this defined term where it is used in all codes except for the IRC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 107.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

Analysis:

This defined term for the ISPSC will be requested to be included under the IMC scoping during scoping update review and approval by the committee responsible for evaluating scoping updates.

62. ISPSC. Section 401.1. The last sentence is not in mandatory language. It can be melded into the first sentence.

Carvin

CAC Agrees

ISPSC

Revise as follows:

401.1 ~~Public swimming pools~~ Scope. The provisions of this chapter shall apply only to Class A, Class B, Class C, Class E and Class F public swimming pools. ~~Public swimming pools covered in this chapter include Class A, Class B, Class C and Class E pools.~~

Reason:

This is partially a clean up to make the sentence read in mandatory language. Also, Class F was added to the list of pools because in the last cycle, Class F (wading pools) was added to the language in Section 405 on wading pools and a definition was added to Chapter 2 for Class F. This section was overlooked in those revisions/additions.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 62.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

63. ISPSC. Section 401.2. Sentence not written in mandatory terms.

Carvin

CAC Agrees

ISPSC

Revise as follows:

401.2 Scope. ~~The provisions in this chapter shall govern requirements contained in this chapter provide specifications for~~ the design, equipment, operation, warning signs, installation, sanitation, new construction, and alteration specific to of the types of public swimming pools indicated in Section 401.1.

Reason:

This proposal is a simple clean-up of language to convert the sentence into mandatory language. No new requirements are being proposed.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 63.

Cost Impact:

Will not increase the cost of construction.

Cost impact substantiation statement:

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

71. ISPSC. Section 401.4.1 & 401.6. What authority? “the authority that provides the accreditation of the pool for competitive events.”

Carvin

CAC Agrees

ISPSC

Revise as follows:

401.4.1 Class A pool tolerances. Dimensional tolerances for Class A pools shall be determined by the authority ~~that governs such pools~~ that provides the accreditation of the pool for competitive events.

401.6 Dimensions for Class A pools. Class A pools shall be designed and constructed ~~to provide with~~ the dimensions determined by the authority ~~that governs such pools~~ that provides the accreditation of the pool for competitive events.

Reason:

This is clarification about *who* determines the dimensions and dimensional tolerances for (Class A) competitive pools. There could be confusion that the code official is responsible as the code official is one authority who “governs” pools. The revised wording makes it clear that the accreditation organization such as FINA, NCAA, ETC.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

73. ISPSC. Section 402.3. 4th sentence. “minimum diving water envelope dimensions...”
Almost editorial

CAC Agrees

ISPSC

Revise as follows:

402.3 Installation. The installation of manufactured diving equipment shall be in accordance with Sections 402.3 through 402.12. Manufactured diving equipment shall be located in the deep area of the pool so as to provide the minimum dimensions shown in Table 402.12 and shall be installed in accordance with the manufacturer’s instructions. Installation and use instructions for manufactured diving equipment shall be provided by the manufacturer and shall specify the minimum diving water envelope dimensions required for each diving board and diving stand combination. The

manufacturer's instructions shall refer to the water envelope type by dimensionally relating their products to Point A on the diving water envelopes shown in Table 402.12. The diving board manufacturer shall specify which boards fit on the design pool geometry types as indicated in Table 402.12.

Reason:

This is strictly an editorial clean up to correctly use the phrase "diving water envelope" where talking about diving features for a pool.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 73.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

82. ISPSC. Section 402.6. The reference to Figure 322.2 doesn't tell the whole story. The figure only only shows a "at the waterline" perimeter of the diving water envelope. What about under water ledges that might intrude into the diving water envelope?
Fred

Carvin says: add offset and/or rest ledges to 402.6. It's in the ANSI/APSP/ICC standards.

CAC agrees

ISPSC

Revise as follows:

402.6 Location of pool features in a diving pool. Where a pool is designed for use with diving equipment, the location of steps, pool stairs, ladders, underwater benches, underwater ledges, special features and other accessory items shall be outside of the minimum diving water envelope shape at the design waterline as depicted in ~~See~~ Figure 322.2.

Reason:

This is partially an editorial change in that the “See Figure 322.2” was dangling at the end of this section without a real connection to the other words. The words “shape at the design waterline” is an especially important addition to made clear that underwater elements such as benches and ledges cannot encroach on the *straight downward projection* of the shape of the diving water envelope at the waterline. It is one thing to make sure that the sloped side walls of a pool are outside of the 3-D shape of the diving water envelope indicated in Figure 804.1 but to allow a horizontal flat surface under the water to be close to the outside of the 3-D shape could be an unnecessarily risky interpretation. Therefore, this improved wording clarifies that those underwater features are to be kept outside of the diving water envelope shape at the design waterline.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 82.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

110. ISPSC Section 410.1. Dressing rooms are not required by the IBC. Only plumbing fixtures are required by IPC/IBC. Nothing about dressing rooms or bathing facilities.
Shawn, Carvin

ISPSC

**SECTION 410
DRESSING AND SANITARY TOILET FACILITIES**

410.1 Dressing and sanitary Toilet facilities. Dressing and sanitary Class A and B pools facilities shall be provided with toilet facilities for Class A and B pools having the required number of plumbing fixtures in accordance with as required by the International Building Code and or the International Plumbing Code.

Reason:

As there is not a requirement for providing dressing rooms or bathing facilities in the IPC or IBC, it doesn't make sense to send the reader on a hunt for something that doesn't exist. Only plumbing fixtures are required by IPC/IBC so this section just needs to say that.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 110.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

109. ISPSC Section 609.3.1. The VUSBC made the following change to this section:

609.3.1 Deck hand shower or shower spray unit. Not less than one ~~shower~~ and not greater than half of the total number of showers required by Section 609.2 shall be a hand shower or spray shower unit located on the deck of or at the entrance of each pool.

Shawn, Carvin, Mike

CAC Agrees with the suggestion.

ISPSC

Revise as follows:

609.3.1 Deck hand shower or shower spray unit. Not less than one ~~shower~~ and not greater than half of the total number of showers required by Section 609.2 shall be a hand shower or spray shower unit located on the deck of or at the entrance of each pool.

Reason:

Several states have made this simple change to this section to comply with the intent of accessibility design. Also, this revision clarifies that a complete shower "module" or fixture is not the intent. All that is required is something for the bathers to rinse off with, not for removing bathing suits and taking a shower.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 109.

Cost Impact:

Will increase the cost of construction.

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. A shower (head) was all that was really intended before so there might be the (modest) additional cost of upgrading to a hand shower. No other materials or labor is required.

10. ISPSC New Chapter/New Section. A pool proposal for “spray grounds” did not receive approval during the last code development cycle because the term Spray Grounds was a trademarked name. Because of the recent (sewage) contamination event of one of these play areas for a Traverse City, MI city park, it is suggested that the CAC propose something like this proposal again. There is an accessory document for this item.

Carvin

ISPSC

Add new text as follows:

SECTION 612
SPRAY PADS

612.1 General. Spray pads shall comply with this section.

612.2 Safety hazards. All parts of the spray pad shall be designed and constructed to not present any safety hazards to the users of the spray pad.

612.3 Walking surface at perimeter. A walking surface of not less than 4 foot (1296 mm) in width shall be provided around the perimeter of the splash zone. The walking surface shall be sloped away from the splash zone. The drainage from the perimeter walking surface shall be directed to deck drains or other surface water disposal systems. Walking surfaces shall not drain to the surge basin for the spray pad.

612.4 Splash zone. The splash zone shall comply with Sections 612.4.2 through 612.4.5.

612.4.1 Absence of standing water. Surfaces in the splash zone shall be designed to not have standing water.

612.4.2 Slope to drain. The surfaces of the splash zone shall slope to drain water to the surge basin of the circulation system for the spray pad.

612.4.3 Nozzles on walking surfaces. Water nozzles that spray from walking surfaces shall be flush with those surfaces. Openings in such nozzles shall not exceed ½ inch (12.7 mm).

612. 4.4 Other nozzles. Nozzles, other than those on walking surfaces, shall be designed to be clearly visible.

612.4.5 Potable water for foggers and misters. Foggers and misters that produce finely atomized water mists shall be supplied only with potable water. Foggers and misters shall not be supplied with water from the surge basin.

612.5 Circulation system. The circulation system shall consist of the equipment covered in Sections 612.5.1 through 612.5.6

612.5.1 Catch screen. A catch screen or basket shall be provided for splash zone drainage piping connections to the surge basin. The screen or basket shall be designed to prevent larger debris from entering the surge basin.

612.5.2 Surge basin. A surge basin shall be provided having a capacity of not less than 4000 gallons or the number of gallons that can be pumped in one minute by the combination of all spray pad and recirculation pumps, whichever is greater.

612.2.5.2.1 Basin materials and design. The basin shall be constructed of materials which are inert, corrosion resistant and non toxic. Basins shall be constructed of concrete, fiberglass, high density polyethylene, stainless steel or other *approved* materials. The design of basins shall anticipate all anticipated loadings under full and empty conditions. Such loading conditions shall be determined by an engineer or architect who has experience with the design of *public* pools.

612.2.5.2.2 Basin access. The basin shall be designed for access for cleaning and inspection. Not less than one access of opening of not less than 3 foot by 3 foot (914mm by 914 mm) shall be provided for placement of a ladder into the basin. All access opening covers shall be locked or shall require tools to open.

612.2.5.3 Circulation pump. The circulation pump shall be sized to turnover the surge basin capacity in ½ hour or less. The intake for the pump shall be located at the lowest elevation of the surge basin. Where separate pumps are installed for the circulation system and the spray nozzles system, the suction intakes for those pumps shall be located on opposite ends of the basin.

612.2.5.4 Spray nozzles and water feature pumps. Spray nozzles and water feature systems shall be supplied water from the discharge of the recirculation pump or from separate pumps. Where separate pumps are installed for the recirculation system and a spray nozzles or water feature system, the suction intakes for spray nozzles and water feature pump systems shall be located adjacent to the recirculation pump discharge point in the basin.

612.2.5.5 Pump control. The controls for spray nozzles and water feature pump systems shall prevent operation of those pumps when the recirculation pump is not operating.

612.2.5.4 Disinfection system. In addition to filtration and sanitizing equipment required by Chapter 3 and this chapter, the recirculation system shall be equipped with an ultraviolet light disinfection unit. The unit shall *listed and labeled* to NSF 50. Where a method other than ultraviolet disinfection is being considered as an alternative method in accordance with Section 104.9, such method shall provide a reduction in the level of cryptosporidium that is equal to or greater than the ultraviolet light method. The alternative method's cryptosporidium reduction capability shall be determined by a nationally recognized testing laboratory.

612.2.5.4.1 UV unit location. The ultraviolet light disinfection unit shall be located on the recirculation system and upstream of any water connection for, or separate pump intake for, supplying spray nozzles or water features.

612.2.5.4.2 UV intensity meter. The chamber of the ultraviolet light disinfection unit shall be equipped with a ultraviolet light intensity meter that is located opposite and at the greatest water depth from the ultraviolet light source. The meter shall be filtered to restrict its sensitivity to the disinfection spectrum.

612.2.5.4.3 Control of pumps by UV meter. The ultraviolet light intensity meter shall interlock with the controls for pumps that supply water for the spray nozzles and water features systems. Where the ultraviolet light intensity meter senses an ultraviolet dosage rate of less than 40 mJ/cm², the interlock shall lock out those pumps from operation.

612.2.5.5 Make-up water system. The surge basin shall be provided with a make-up water system that is supplied with potable water. The portable water supply shall be protected against backflow in accordance with the *International Plumbing Code*.

612.2.5.6 Diverter valve. The drainage piping for the splash zone shall have a diverter valve to divert splash zone drainage away from the surge basin when the spray pad is not in operation. The diverted drainage shall be to an approved place of disposal.

612.2.6 Operating instructions. Operating instructions for spray pads shall require that the circulation system be operated continuously for not less than 4 turnovers prior to the pumps for the spray nozzles and water features systems being turned on for use of the spray pad.

612.2.7 Lighting. Where a spray pad will be in operation at night or during periods of inadequate natural lighting, artificial lighting shall be provided. Such lighting shall be installed in accordance with the manufacturer's instructions and NFPA 70.

Reason:

In the last cycle, the APSP organization proposed similar language for these highly popular water play areas that are rapidly becoming an alternative for some public swimming pools in many jurisdictions across the country. The technical committee disapproved the proposal because the term that was used in the proposed language for naming these attractions was a trademarked term. (The proposed SPRAY PADS is not, to our knowledge, a trademarked term.) There was no disagreement by the committee that this information was needed for the code but the trademarked term just had to be changed. Unfortunately, the proposal was disapproved by the membership at final action hearing.

Waterparks have included these attractions in their array of fun things to do at the park for many years. As large waterparks are highly focused on the safety and cleanliness of all water used at the park, regulations didn't seem to be necessary for these attractions – the waterparks knew what to do, how to do it and have an excellent track record. However, as these types of attractions move into the public sector, many people who are responsible for choosing and operating this equipment might be lacking the (waterparks') knowledge about what is critical for a safe installation. Those involved in the pool and spa industry and those involved in operating public pools in jurisdictions across the country are well aware of a water contamination occurrence in one of these attractions at a Traverse City, MI city park not so long ago.

The ISPSC is the best place to install these requirements within the I-code family of codes as these attractions involve circulated and filtered water (similar to what a pool or spa uses) for recreational use even though such attractions do not involve users "bathing" (immersing themselves) in bodies of water.

The most recent edition of the California Building Code is reflective of many of the proposed concepts and details of the language of this proposal.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 10.

Cost Impact:

Will increase the cost of construction

Cost impact substantiation statement:

This proposal will increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code. Specifically, the code is currently silent about these types of attractions which means that any supplier of these attractions could provide any kind of equipment (of safe design or not). In some cases, having these regulations in code will make the cost of some suppliers' attraction packages be more than if they did not have to comply with these minimum safety requirements. For other suppliers, these requirements are already included in their standard packages.

9. ISPSC Section 809.2. The last sentence of the section *"Pools having more than one shallow area, including but not limited to center deep, play or sports pools, shall use the same type of entry and exit in all shallow areas. Ladders shall not be installed in a shallow area of a pool."* has to be removed.

Per Carvin:

Since the APSP-5 2011 standard was published, several calls have been received from builders and fiberglass pool manufacturers expressing concern that the language in Section 6.1 of APSP-5 is creating problems both in construction and for fiberglass pool manufacturers with existing molds. According to the language in the 2011 edition of APSP-5, these existing molds can no longer be used.

The existing language has been modified to help clarify and remedy this section. Hopefully, it will eliminate the problems encountered by builders and manufacturers, while at the same time, eliminate the misperception of a shallow end being the deep end based on the assumption that a ladder signifies the deep end.

CAC agrees.

ISPSC

Revise as follows:

809.2 Entry and exit. Pools shall have a means of entry and exit in all shallow areas where the design water depth of the shallow area at the shallowest point exceeds 24 inches (610 mm). Entries and exits shall consist of one or a combination of the following: steps, stairs, ladders, treads, ramps, beach entries, underwater seats, benches, swimouts and other *approved* designs. The means of entry and exit shall be located on the shallow side of the first slope change.

809.3 Secondary entries and exits. Where water depth in the deep area of a pool exceeds 5 feet (1524 mm), a means of entry and exit shall be provided in the deep area of the pool.

Exception: Where a means of exit from the deep end of a pool would present a potential hazard, handholds shall be provided for the means of exit.

Reason:

Since the APSP-5 2011 standard was published, several calls have been received from builders and fiberglass pool manufacturers expressing concern that the language in Section 6.1 of APSP-5 is creating problems both in construction and for fiberglass pool manufacturers with existing molds. According to the language in the 2011 edition of APSP-5, these existing molds can no longer be used.

The existing language has been modified to help clarify and remedy this section. Hopefully, it will eliminate the problems encountered by builders and manufacturers, while at the same time, eliminate the misperception of a shallow end being the deep end based on the assumption that a ladder signifies the deep end.

Statement trailing the reason:

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes. This is PMGCAC Item 9.

Cost Impact:

Will not increase the cost of construction

Cost impact substantiation statement:

This proposal will not increase the cost of construction because additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code.

THE END