



February 11, 2019

Erin Conley  
Division of Legal Services  
Illinois Department of Public Health (IDPH)  
535 W. Jefferson, 5<sup>th</sup> Floor  
Springfield, IL 62761  
Via Email: [dph.rules@illinois.gov](mailto:dph.rules@illinois.gov)

RE: IDPH Proposed Changes to the Illinois Plumbing Code, Published in the December 28, 2018 Illinois Register

Dear Ms. Conley,

ASA is a trade association representing over 450 wholesaler/distributor companies with 4,500 distribution locations throughout the U.S. and over 90 product manufacturers serving the plumbing and industrial pipe/valve/fitting (PVF) markets. ASA member representation in the state of Illinois include 100 wholesaler/distribution locations and over 20 manufacturing locations.

ASA is committed to being actively engaged in and having a positive impact on the development of codes and standards used throughout the U.S. The following represents some of the codes and standards where ASA is involved: Uniform Plumbing Code, International Plumbing Code, ASTM product standards, ASHRAE energy/water efficiency and water quality standards; ASSE product standards, ASME product standards, and NSF plumbing and drinking water standards.

The following comments are being offered for your consideration concerning the proposed changes to the Illinois Plumbing Code (IPC) published in Volume 42, Issue 52 of the Illinois Register:

### **Section 890.120 Definitions**

*"Hot Water": Water at a temperature of not less than ~~160~~120 degrees Fahrenheit.*

Comment:

We recommend consideration in the adoption of one of the consensus based definitions for "hot water" currently published in existing model plumbing codes:

International Plumbing Code (2018) – “water at a temperature greater than or equal to 110°F (43°C); or

Uniform Plumbing Code (2018) – “water at a temperature exceeding or equal to 120°F (49°C).

ASA provides additional comments below in opposition to the reference to 160°F.

## **Section 890.610 General Requirements – Material and Design**

*d) In buildings other than residential, hot water shall be generated, distributed and maintained at 160 degrees Fahrenheit or higher. Any mixing or tempering of hot water for use in plumbing fixtures, appliances or appurtenances shall occur within 12 inches before any fixture, appliance or appurtenance. Mixing and tempering devices shall comply with the requirements of this Part. Distribution of tempered or mixed water is prohibited.*

### Comment:

The proposed change to require a 160°F throughout the system would create both a public safety risk and a significant economic impact. ASA is not in support of the proposed changes.

It is our understanding that the proposed rule is based on a desire to reduce the potential risk of Legionella growth in the water system. The need to decrease the potential risk of exposure to Legionella needs to be properly balanced with the need to protect the public from the potential of scalding due to the increased temperatures being recommended. ASHRAE Guideline 12<sup>i</sup>, a consensus document developed by experts in the field, notes, “Conditions that are favorable for the amplification of legionellae growth include water temperatures of 25 – 42°C (77 – 108°F)”. The Guideline goes on to state, “Where practical ... hot water should be stored at temperatures of 49°C (120°F) or above.” Based on this information, it would appear that requiring a 160°F minimum throughout the system is significantly higher than what is needed and in fact, increases the potential of scalding.

The economic impact associated with the requiring of a 160°F hot water temperature throughout the system is related to the increased cost of insulating the piping which will be required on any surface exceeding 140°F and the increased energy costs associated with maintaining the minimum temperature throughout the system.

Concerning the 12 inches proposed requirement, some mixing valves (especially pressure-balancing types that compensate for variations in the inlet supply pressure to maintain the water temperature at the outlet) may not be designed to drop the temperature enough in such a short distance (12 inches) to prevent a scalding or thermal shock hazard. Additionally, the test set-up to ensure that an automatic compensating valve provides scalding and thermal shock protection in accordance with ASSE 1016/ASME

A112.1016/CSA B125.16 is conducted within 36 inches from the fixture, and not 12 inches. Finally, it is not possible in all circumstances to have a mixing valve within 12 inches of the fixture, appliance or appurtenance.

## Section 890.690 Shower Receptors and Compartments

*b) Water Temperature Safety. ... All shower compartments and shower-bath combinations shall be provided with an automatic safety water mixing device to prevent sudden unanticipated changes in water temperature or excessive water temperatures. The automatic safety water mixing device shall comply with ASSE 1016/ASME A112.1016/CSA B125.16, ~~in accordance with Section 890.210, and be designed with a maximum handle rotation limit/stop, or comply with ASSE 1017 or ASSE 1070, in accordance with Section 890.210.~~ The automatic safety water mixing device shall be adjusted to a maximum setting of 115 degrees Fahrenheit at the time of installation. ~~The temperature of mixed water provided to multi-shower units or multi-person showers shall be controlled by a master automatic safety water mixing device, or the mixed water temperature shall be individually regulated by automatic safety mixing valves for each shower unit.~~ A water heater thermostat shall not be an acceptable alternative water temperature control device.*

### Comment:

ASA agrees that ASSE 1017 devices should not be installed at the point of use however; as we note below in our comments on Section 890.TABLE A, the IPC properly permits ASSE 1017 valves to be used for other applications throughout the code and this should continue.

ASA opposes the proposed change to remove master automatic safety water mixing devices for multi-unit and multi-person showers. The ASSE 1069 – *Automatic Temperature Control Mixing Valves* are devices used to control the water temperature to individual or multiple fixtures to reduce the risk of scalding and thermal shock. The use of shut-off valves downstream of the 1069 device should also be continued to be permitted to provide the bather access to temperature adjustment means where no further mixing occurs downstream of the device.

## Section 890.740 Kidney Dialysis Machines

*f) All plumbing materials associated with dialysis equipment, including the reduced pressure principle (RPZ) backflow preventer assembly device, shall consist of non-metallic materials approved in Appendix A. Table A.*

### Comment:

ASA opposes the proposed change. It is overly restrictive to only require non-metallic RPZ's conforming to ASSE 1013. This eliminates most RPZ's that are currently available in

the marketplace, even though it is common practice to coat the inside of the RPZ with epoxy for certain applications. This language would also eliminate RPZ's made with stainless steel components and bodies.

**Section 890.TABLE A Approved Materials and Standards  
Approved Building Drainage/Vent Pipe**

7) ~~Galvanized Steel Pipe<sup>2</sup>~~ ~~ASTM A 53/A53M-2012~~

Comment:

We are not aware of any justification for the removal of galvanized steel pipe for use in drainage and vent pipe applications. This is a common material used and is an accepted material for this end-use in both the International Plumbing Code and the Uniform Plumbing Code. In addition, galvanized steel pipe is commonly used with emergency showers and eyewash stations due to the cost effectiveness and the ability of the material to withstand various types of environments where such equipment may be located.

**Section 890.TABLE A Approved Materials and Standards  
Approved Materials for Water Service Pipe**

7) ~~Galvanized Steel Pipe<sup>2</sup>~~ ~~ASTM A 53/A 53M-2012~~

Comment:

We are not aware of any justification for the removal of galvanized steel pipe for use in water service pipe. As noted in footnote 2 of the table, the material is required to comply with the requirements of NSF/ANSI 61 and a review of the NSF product certification listings, these types of products continue to carry a certification for use in potable water systems.

**Section 890.TABLE A Approved Materials and Standards  
Approved Materials for Water Service Pipe**

35)	<del>Mixing Valves</del>	<del>ASSE 1016-2011/ASME</del>
	<del>Automatic Compensating Valves for Individual Shower and Tub/Shower Combinations</del>	<del>A112.1016-2011/CSA B125.16-2011</del>
	<del>Temperature Actuated Mixing Valves for Hot Water Distribution</del>	<del>ASSE 1017-2009</del>



Comment:

Based on the proposed revisions, we believe it is not the intent to completely remove ASSE 1017 devices from Table A. ASSE 1017 devices are appropriately referenced in the current IPC under sections 890.680 *Lavatories* and 890.1220 *Hot Water Supply and Distribution* and should remain in the IPC.

ASA is thankful for the opportunity to comment on the proposed changes to the IPC and look forward to be engaged in the revision process going forward. If you have any specific questions related to the comments provided please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads 'James G. Kendzel'.

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<sup>i</sup> ASHRAE Guideline 12 – 2000, *Minimizing the Risk of Legionellosis Associated with Building Water Systems*, ISSN 1041-2336