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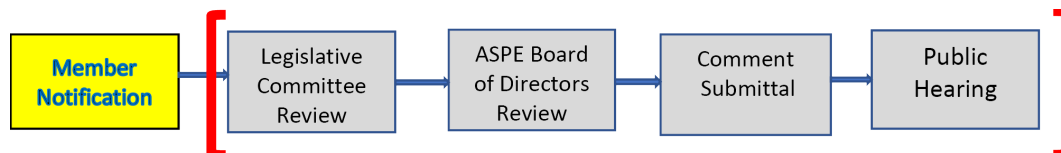
BILLY SMITH, FASPE
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Dear ASPE Member,

Recently, the Illinois Department of Health issued proposed amendments to the Illinois Plumbing Code. A member from our St. Louis Chapter closely involved in the process was concerned that the proposed amendments would have a significant impact on public safety and plumbing system designs in Illinois. He forwarded information about the proposed amendments to the Society's leadership team for proper communication processing. Subsequently, additional members also notified the Society sharing the same concern.

As a result of our members' diligence, ASPE's Legislative Committee was able to review the proposed amendments and take action. With help from staff and approval by the Committee, ASPE's Vice President, Legislative, Brianne Hall, PE, CPD, LEED AP BD+C, GGP, drafted formal comments and submitted them to the Illinois Department of Health, which administers the Illinois Plumbing Code, in a timely manner. As a formal submission and to demonstrate the Society's unanimity, Legislative Committee Co-Chairs, Cyril Unger, CPD, GPD, FASPE, and Jose Francisco DeHoyos, CPD, ASPE President Carol Johnson, CPD, LEED AP, FASPE, and ASPE Executive Director/CEO Billy Smith, FASPE were all copied on the letter. [\(copy attached\)](#)

The process that took place was a good example of how one member's actions enabled ASPE to take the appropriate steps that could have a significant impact on the protection of public safety. It is a reminder for the rest of us to be diligent, engaged, and willing to share information so ASPE can take the necessary actions. The flow chart below illustrates the simple process of becoming more engaged for the betterment of our society.



Notification can be sent to one of the following:

- President, Carol Johnson, CPD, LEED AP, CFI, FASPE aspepres@aspe.org
- Vice President, Legislative: Brianne Hall, PE, CPD, LEED AP BD+C, GGP aspevpl@aspe.org
- Executive Director/CEO: Billy Smith, FASPE bsmith@aspe.org
- Sr. Director of Technical and Regulatory Affairs: Ramiro Mata rmata@aspe.org

With the upcoming launch of the ASPE Connect communities site, it will be even easier to collaborate and share information within ASPE, but without your input, the subsequent steps will not occur. Help protect the best interest of our society and public safety by sharing your knowledge.

Sincerely,



Carol Johnson, CPD, LEED AP, FASPE
ASPE President

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February 7, 2019

Ms. Erin Conley

Division of Legal Services

Illinois Department of Public Health

535 West Jefferson St., 5th Floor

Springfield, IL 62761

Dear Ms. Conley,

The American Society of Plumbing Engineers (ASPE) appreciates the opportunity to provide comments to the proposed rulemaking to Part 890 of the Illinois Plumbing Code. Founded in 1964 with more than 6,500 members, the American Society of Plumbing Engineers is the international organization for professionals skilled in the design, specification and inspection of plumbing systems. ASPE is dedicated to the advancement of the science of plumbing engineering, to the professional growth and advancement of its members and the health, welfare and safety of the public.

With this in mind, we are pleased to provide the following comments:

Proposed Change:

Section 890.120 Definitions – “Existing Plumbing or Existing Work” – Striking definition from code which was defined as a plumbing system or any part of a plumbing system that has been installed prior to January 1, 2014.

Comment: In Opposition

Removal of this definition could require that any approved code proposals have a retroactive impact on existing buildings and systems. Existing buildings and systems were not designed to incorporate the proposed changes to Section 890.610.

Proposed Change:

Section 890 – TABLE A Approved Materials and Standards – Approved Standards for Plumbing Appliances/Appurtenances/Devices: 350 – Striking Temperature Actuated Mixing Valves for Hot Water Distribution – ASSE 1017 – 2009 from the code.

Comment: In Opposition

This is a proposed change which is contingent upon the approval to a proposed change to Section 890.610. ASPE is speaking in opposition of the proposed change to Section 890.610 and opposes this change by association.

Proposed Change:

Section 890.690 Shower Receptors and Compartments – b) Striking “in accordance with Section 890.210”, Striking “ASSE 1017” from the code and “and striking “temperature of mixed water provided to multi shower units or multi person showers be controlled by a master automatic safety water mixing device”.

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Comment: In Support

Section 890.210 is referenced twice in this section of the code. Striking the first reference is cleaning up code language. Striking an ASSE 1017 master mixing valve is appropriate within this section of the code as it is a master mixing valve not intended for use at a shower or shower-bath combination. An ASSE 1016/ASME A113.1016/CSA B125.15 is the appropriate mixing device specifically for shower compartments and shower-bath combinations, ASSE 1070 is appropriate for bathtubs. The mixed water temperature at the fixture shall be regulated by ASSE 1016 or 1070 valves and not an ASSE 1017 master automatic safety water mixing device.

Proposed Change:

Section 890.610 General Requirements – Materials and Design

Adding d) "In buildings other than residential, hot water shall be generated, distributed and maintained at 160°F 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 or tempering devices shall comply with the requirements of this Part. Distribution of tempered or mixed water is prohibited.

Comment: In Opposition

The proposed code change as written implies that maintaining a minimum temperature of 160°F will be the hot water return temperature, requiring the hot water supply to be higher than 160°F.

It is understood that the intent is to address concerns with Legionella. According to a 2012 white paper entitled 'Understanding Potential Water Heater Scald Hazards' written by the ASSE International, Table 1, in Laboratory results indicate water at 131°F kills legionella bacteria in 5-6 hours, and water at 140°F kills legionella in 32 minutes. However, according to the table, water temperature of 140°F will cause 1st degree burn in only 2 seconds and 2nd degree burns in 5 seconds. Though water temperature of 160°F is considered to be in the disinfectant range where legionella bacteria will die instantaneously, it will also cause instantaneous 1st degree burns and 2nd degree burns within 1 second. Aside from the increased potential for scalding, requiring 160°F minimum water temperature leads to a number of concerns regarding the existing plumbing system because, as shown below, piping, components and fixtures were not designed or intended to operate at that temperature.

- Discharging water into a sanitary sewer system above 140 degree Fahrenheit may result into code violations with the EPA and local AHJ. Quenching will be required to prevent discharge of 160 degree Fahrenheit (or higher) water to the sanitary system in order to because, according to the Plastic Pipe Institute White Paper on Suggested Temperature Limits for Operation and Installation of Thermoplastic Piping TN-11/99 in Non-Pressure Applications, Polyvinyl Chloride (PVC) piping which are approved for use by the Illinois Plumbing Code, has a maximum operating temperature of 150°F.
- Resulting thermal expansion from the 160°F water temperature may require extensive modification to existing piping and components.

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- Users of emergency eyewash and shower stations will be subjected to increased risk of scalding. Mixing valves serving emergency fixtures are tested and certified to ASSE 1071 which ensures water can be tempered from temperatures as high as 180°F, however the life cycle test is conducted at 140°F. Consequently, there is no data to ensure that the mixing valve will operate properly and safely at 160°F.
- Where mixing valves are required, they are tested to ASSE 1016/ASME A112.1016/CSA B125.16-2017 and ASSE 1070-2015/ASME A112.1070-2015/ CSA B125.70-15 to ensure water can be tempered from temperatures as high as 180°F, however the life cycle test for mixing valves is conducted at 140°F. Mixing valves may fail when consistently exposed to higher temperatures than tested.
- Proposed code change does not meet the DOE requirements 429.17 governing water heaters.
- Proposed code change contradicts A40 -1993 Safety standard for Plumbing by ANSI/MCA/PHCC/IAPMO, the US Department Health and Human Services, Hospital and Medical Facilities HRP- 0905974 adopted in 1984 and the ACA (American Correctional Association) adopted in 1990 and IEEE 2016.

Again, we wish to thank you and the Illinois Department of Public Health for the opportunity to comment and for your consideration.

Sincerely,



Brianne N. Hall, P.E., CPD, LEED AP BD+C, ASPE Vice President, Legislative

cc:

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Jose Francisco DeHoyos, CPD ASPE Legislative Committee Co-Chairman
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