

July 1, 2022

Mr. Richard Becker
Chair, Minnesota Plumbing Board
Minnesota Department of Labor and Industry
443 Lafayette Road North
St. Paul, Minnesota 55155



Subject: Remote Water Softener By-Passes

Dear Chair Becker and Members of the Plumbing Board:

Please find attached to this letter a Request for Interpretation (RFI) of Minnesota Plumbing Code from the Minnesota Water Quality Association (MWQA). We believe that language in Minnesota 2020 code, specifically paragraph 611.5, has been interpreted in error to require three-valve bypass assemblies on residential water conditioning equipment. We feel that this current interpretation by the Department of Labor and Industry (DOLI) does not reflect the intent of the plumbing board that authorized changes to this section and furthermore is inaccurate because integral service bypass appurtenances satisfy the requirements outlined in code.

Background

Bypass assemblies on residential water conditioning equipment have been accepted practice since before 1970. In 2017 changes were made to the definition of water conditioning installations to require "readily accessible" isolation valves on "multifamily or non-residential buildings." The requirement for these commercial installations was added to define the scope of work that falls within the purview of licensed water conditioning contractors.

During final preparations for the adoption of the Minnesota 2020 plumbing code, Department staff indicated that adding the language to the section in question was an innocuous change that was not intended to be a substantive deviation from current practices. Rather, the code change was intended to bring parity to the code language, without uprooting the established use of integral service bypass appurtenances in residential settings.

However, during a member conference hosted by the Minnesota Water Quality Association in October of 2021, department staff announced during a presentation that integral service bypass appurtenances utilized by the industry for the last 30 years are no longer adequate to meet code, and that separate isolation valves and bypass piping would now be required.

Unintended Consequences

This latest interpretation is fraught with issues and unintended consequences that were never discussed or contemplated by the board. They include the following:

- Adding valves and plumbing unique to each installation adds significant cost to the consumer. Anecdotally, contractors are charging \$200 to \$400 in additional fees in municipalities that have implemented the three-valve remote by-pass requirement.
- A remote three-valve by-pass does not provide any value in the protection of public health.
- A remote by-pass does not provide a significant advantage to the purchasing consumer for the future replacement. Water conditioning equipment will last 15 to 25 years. The installation of

replacement equipment with a new by-pass is not a burden in additional labor or plumbing - such that the consumer should have to pay for that benefit years in advance. Additionally, even remote bypass assemblies often require moving and valve replacement when water conditioning equipment is ultimately replaced; so the water service is often shut off .

Suggested Interpretation

The interpretation of the code at line 611.5, “Every water conditioning installation shall include the installation of isolation valves and a by-pass valve which would allow the equipment to be serviced or removed without the need for shutting off the water service completely”, that precludes the use of industry accepted integral service bypass appurtenances is inaccurate.

The Minnesota Water Quality Association and the industry members it represents request that the Plumbing Board vote to support an interpretation of the code that does not preclude the use of integral service bypass appurtenances to meet code requirements because these mechanisms effectively meet the desired intent of the code as reflected in the RFA.

Integral Service By-pass appurtenances are installed on the piping and then connected to a softener using unions, o-rings or gasketed fittings. Often unions are provided on both sides of the by-pass appurtenance. The bypass appurtenance, when cycled, allows untreated water to go around (bypass) the softener, providing uninterrupted water to the home. The softener can be easily and quickly removed for service, with no interruption to water supply. Once serviced, the softener can be reattached, the bypass appurtenance opened, and softened water service resumed. Cycling the device isolates the softener, allows it to be serviced, and allows it to be removed without interruption of water service. Thus, the intent of the code is met.

The primary arguments that lead MWQA to believe that the interpretation outlined above is correct:

1. Integral Service By-Passes Appurtenances are acceptable as defined in 611.5.

They meet the requirements of Minnesota Code;

- shutting all water off to the equipment for service, and
 - shutting all water off if the equipment is removed, and
 - supplying water service to the building while the equipment is serviced.
2. The industry has moved to integral service by-pass appurtenances that are matched to a water softener. They have improved greatly and are dependable. Newer versions provide the additional functions of a diagnostic position and a shut-off position. They are standardized to assist in plumber, contractor, or internet phone support to the consumer.
 3. The cost to the consumer has not been justified.

For the reasons outlined above, we would appreciate the Board’s consideration and interpretation of Code paragraph 611.5 that recognizes that integral service bypass appurtenances meet code.

Sincerely,

MINNESOTA WATER QUALITY ASSOCIATION

Scott Schiesser, MWS

President

Minnesota Licensed Water Conditioning Master

Jeffrey B. Hill, MWS

Minnesota Water Conditioning Master

Minnesota Water System Operator (MDH)

Minnesota Plumbing Code Advisory Committee (2005-2008)