

ISSUE: DS 2021-052. The petitioner Alfonso Fernandez-Fraga, President of Initial Engineers, P.A., is seeking a declaratory statement regarding whether Section 606.1 of the 7th Edition (2020) Florida Building Code, Plumbing requires separate full open valve for the water heater and its dedicated tempering valve.

Petitioner seeks clarification of the following question:

When a water heater is fitted with a tempering valve, does Florida Building Code - Plumbing 2020, Section 606.1, 8 require separate full open valves for the water heater and its dedicated tempering valve?

Situation:

The petitioner has multiple commercial office projects under design that are affected by the referenced section. The projects are office suites in high-rise and mid-rise office buildings. As part of the declaratory statement request, the petitioner provided a diagram depicting the proposed installation for the valve in question (see Petition for Declaratory Statement.)

Additional comments from the petitioner:

1. The sketch as provided in Page 3 of the Petition for Declaratory Statement indicates a diagram of the proposed installation. A full open valve is provided in accordance with 606.1, item 8, and a tempering valve is provided in accordance with 607.1.1. The Code is silent on the need to separate the water heater and the tempering valve with two separate full open valves.
2. If a single valve is provided, as illustrated on the diagram, and if the flow is shut off to the water heater, the complete hot water system is deprived of flow, which is exactly what needs to happen in the event of a leak or in the event service is to be performed.
3. If separate valves are provided for the water heater and the tempering valve, service personnel could potentially shut off the supply to the water heater without also shutting off the supply to the tempering valve, introducing the potential for undesired backflow, disabling quick control of any leak, and prohibiting service.
4. There are products on the market such as those illustrated in the Petition for Declaratory Statement that feature factory-installed tempering valves. None have separate shutoff valves for the tempering valve and the associated water heater. Any valve that shuts off flow to the water heater also shuts off flow to the assemblies' tempering valve. Since there is no practical difference between the factory assembled system and the field assembled system, there should be no need

for a second valve on the field assemblies any more than there is a need for separate valves in the factory assemblies.

5. The verbiage in the International Plumbing Code and the cited sections of the Florida Building Code - Plumbing, is identical. I contacted the International Code Council and spoke to staff member Chris Holland regarding this matter. Mr. Holland indicated that a single valve, as proposed, is all that is necessary and sufficient per the International Plumbing Code (the source Code).
6. The commentary to the International Plumbing Code indicates that the intent of the water heater shutoff valve is to allow for replacement of the water heater and its accessories without interrupting the supply of cold water to the building. This intent is met in a better, faster, more efficient, and more trouble-free manner with one valve than with two.

7th Edition (2020) Florida Building Code - Plumbing

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

606.1 Location of full-open valves.

Full-open valves shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.
3. On the discharge side of every water meter.
4. On the base of every water riser pipe in occupancies other than multiple-family residential *occupancies* that are two stories or less in height and in one- and two-family residential *occupancies*.
5. On the top of every water down-feed pipe in *occupancies* other than one- and two-family residential *occupancies*.
6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
7. On the water supply pipe to a gravity or pressurized water tank.
8. On the water supply pipe to every water heater.

607 Hot Water Supply Systems

607.1 Where required

In residential occupancies, hot water shall be supplied to plumbing fixtures and equipment utilized for bathing, washing, culinary purposes, cleansing, laundry or building maintenance. **In nonresidential occupancies, hot water shall be supplied for culinary purposes, cleansing, laundry or building maintenance purposes. In nonresidential occupancies, hot water or tempered water shall be supplied for bathing and washing purposes.**

607.1.1 Temperature limiting means

A thermostat control for a water heater shall not serve as the temperature limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperature at fixtures.

Staff Analysis

Question: When a water heater is fitted with a tempering valve, does Florida Building Code - Plumbing 2020, Section 606.1, 8 require separate full open valves for the water heater and its dedicated tempering valve?

Answer: The answer to the Petitioner's question is no. As per Section 606.1 of the 7th Edition (2020) Florida Building Code, Plumbing and for the project in question, full open valve is only required to be installed on the water supply pipe to the water heater and therefore, no such valve is required to be installed for the dedicated tempering valve.