September 2, 2014

Chapter Members, C-1s, Friends of the Industry:

Subject: Replacing Tank Water Heater with a Tankless Water Heater

During the August 28, 2014 chapter meeting, discussion about the Navien, Inc. tankless water heater installation manual brought to light the different tables and charts in the IAPMO UPC. The multiple charts in the IAPMO UPC can lead to confusion and improper tankless water heater installations.

Tom Gugino, The IAPMO Group, (retired), provided the following information for replacing a conventional tank water heater with a tankless water heater:

1. Find a Table in chapter 12 of the 2012 UPC that lists the material used in the gas piping system. Measure the distance from the gas meter to the water heater location.

2. Use the Tables in chapter 12 of the 2012 UPC that lists the pressure drop of 0.5 inches water column. Find the length of the gas meter to the water heater location in the left column of the Table. Look to the right side of the length in feet column to find the required cubic feet of gas per hour with the required size of the gas piping to be installed. For example Table 1216.2(1) is used for schedule 40 metallic pipe.

3. Check to see if the room where the water heater is located has the required volume of combustion air for the BTU rating of the tankless water heater per section 506.2.1 of the 2012 UPC. The required volume of air per that section of code is 50 cubic feet per 1,000 BTU's per hour. When additional combustion air is required it shall be supplied using one of the methods outlined in sections 506.4 through 506.7.3.

4. The venting for a tankless water heater shall be per section 509.4 and Table 509.4 and sections 509.4.1 through 509.4.3. Direct vent tankless water heaters shall comply with section 511.1 of the 2012 UPC and shall be considered properly vented where installed in accordance with the terms of its listing and the manufacturer's

If in doubt or have a question, call the building department responsible for where the work is taking place. As Dave Troup reminds us, a change-out of a tank type water heater listed at 50,000 BTU to a 199,000 BTU tankless heater is not "Like for Like" when applying for a water heater replacement permit.

Respectfully,

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