Water Heater Temperature/Pressure Relief Valve Termination

PURPOSE: To define acceptable methods of discharge from a water heater temperature pressure relief valve.

BACKGROUND:

The adopted 2007 California Plumbing Code (CPC) requires that tank type water heaters are provided with temperature and pressure limiting devices, typically a temperature pressure relief valve (T&P valve). The code requires that a full-size line serve the valve in accordance with CPC Section 608.5; it shall terminate at the exterior of the building with the end of the pipe pointing downward between six and 24 inches from grade. The code also states that the relief valve drain shall not terminate in a crawl space and no portion of the drain shall be trapped or subject to freezing; such drains may terminate at other approved locations. Other approved locations are as determined by the authority having jurisdiction (the Town).

DISCUSSION:

Truckee is a geographic area where terminating the T&P line outside of the building may subject it to freezing. The CPC does not define “other approved locations” and does not provide much, if any, guidance on other solutions.

Both the International Residential and International Plumbing Codes (IRC and IPC, 2003 Editions; neither of which is adopted by the State of California; both of which are used widely throughout the United States) suggest other methods of termination. The IPC makes no mention of subjecting the line to freezing, but it does state that termination shall be a “safe place of disposal.” Both codes suggest termination at a floor, outside the building, or an indirect waste receptor. The IRC states that if the pipe terminates at the floor, the termination is not greater than six inches from the floor.

Considerations for a location to terminate the T&P line include protection of occupants and visibility. Lines typically terminate pointing downward so that in the event the valve opens, occupants are not scalded by overheated water. When valves leak, they need replacement; consequently, it is important to know or see that they are leaking. When they fully open, there is a water heater problem and servicing is imperative. Terminating in a garage accomplishes all of the above. The only downside is damage to property. Garage doors may or may not allow water to discharge.

PROCEDURE:

The water heater T&P line shall terminate as follows:

1. Between six and 24 inches of the garage slab;
2. At a protected outside location such as under a deck where there is limited snow build up;
3. An interior indirect discharge such as a mop sink (not in a crawl space);
4. Outside of the building, the warmer south side is preferred to the north or west sides of a building. Please consider protection from snow and ice.