Containment Versus Isolation

Containment means to restrain or to have within/hold. In the backflow prevention dictionary, it means a service connection backflow preventer, which restrains water within the potable water plumbing system. Isolation means, “to place or keep by itself — separate from others.” The backflow prevention industry interprets this to mean individual fixture or appliance (point-of-use) protection.

Does the plumbing code require containment protection? No. It is intuitive that the plumbing code requires every water outlet to be protected from the possibility of backflow through a cross connection. Therefore, a properly installed plumbing system protects the occupants of the building.

However, do property owners make changes to their plumbing systems? Yes. Are cross connections inadvertently created? Yes. Water purveyors realize this, and consequently require a backflow preventer on the service connection to afford public distribution system protection. The metaphor here is belt and suspenders.

With the installation of a containment backflow preventer, the code does require addressing a few issues. The installation of a backflow preventer modifies the plumbing system. For that reason, a permit is required. How is that if the containment backflow preventer is not required by code? First, the contractor must determine the residual pressure within the plumbing system, as backflow preventers introduce a significant pressure loss with a user’s demand. Be mindful that the system’s residual pressure must be at least 15 psi. Also, the installation of a containment backflow preventer creates a “closed” plumbing system that will not permit backpressure backflow from thermal expansion through the service connection. Therefore, the plumbing code requires the installation of an expansion tank or similar device acceptable to the jurisdictional authority.

A thorough plumbing inspector will consider a number of other plumbing code requirements for the backflow preventer’s permit. Examples of concerns the inspector might anticipate include making sure adequate drainage is provided if the unit discharges to the atmosphere, not allowing the installation in an area that contains toxic or corrosive fumes, and not allowing a discharge near an electrical hazard.

This presentation is by no means a comprehensive one-stop for making a backflow preventer’s need determination. It is simply a launching pad for your journey into Chapter 6 of the plumbing code and its cross-connection control requirements.

For further training on taking the controls and steering the ship, we recommend that you attend one of the several programs provided by the Backflow Prevention Institute. For more information, please visit: http://www.iapmodwb.org/Pages/TrainingandCertification.aspx. If you have any question or comment regarding backflow prevention and cross-connection control, please do not hesitate to contact me via e-mail at stu.asay@iapmo.org.