

Texas Commission on Environmental Quality
Cross-Connection Control Subcommittee
September 2, 2009
Building F, Room 2210
9:00a m - 3:00 pm

Welcome and Introductions

Announcements

1. The next meeting of the subcommittee is scheduled for Wednesday, December 2, 2009, and will be facilitated by Joel Klumpp, TCEQ Public Drinking Water Section.

Adoption of minutes from meeting held June 3, 2009

Minutes were adopted without discussion.

Follow-Up on Previous Discussions of Chapter 290 Regulations:

Byron Hardin, Hardin and Associates Consulting, LLC, summarized previous discussions of the Cross-Connection Control Subcommittee regarding potential modifications to the Chapter 290 regulations. The subcommittee discussed the drafted rule petition which will propose the following modifications:

1. Develop wording in Chapter 290 that requires Public Water Systems to report all backflow incidents to TCEQ.
2. Change the Water Utility "Superior" rating criteria to include specific language relating to having an approved backflow prevention program in place in order to qualify as a Superior Water System.
3. Revise 30 TAC 290.47(b) Appendix B (Sample Service Agreement) to include language that whether or not you sign it, as long as you use the PWS water you are a customer and subject to compliance or termination. Require all Public Water Systems to adopt a Customer Service Agreement.

General discussion of the language used in the proposal followed. Fred Baird, Bac-Flo Unlimited, would like to see all unprotected cross-connections and all backflow incidents (those that contaminate the public water supply as well as those whose contamination is confined to one building) reported to the TCEQ. Cathy Wingert, Wingert Water Systems, pointed out that more specific language needs to be implemented regarding when and how to report backflow incidents. Several subcommittee members agreed that regulatory guidance would need to be created for this rule.

Byron Hardin, Danny Lytle (City of Austin), Cory Harmon (City of Austin), Steve Fain (Cross-Connection Control Institute), Bruce Rathburn (San Antonio Water System), and Fred Baird are prepared to move forward with the proposal to make changes to the Chapter 290 regulations. Their next move is to get their proposal onto the agenda at the upcoming Drinking Water Advisory Workgroup meeting.

Report on the Rainwater Harvesting Meeting held at TCEQ in June

Cindy Haynie, TCEQ Public Drinking Water Section, gave a report on the proceedings of the rainwater harvesting meeting held at TCEQ on June 15, 2009.

The Uniform Plumbing Code and International Plumbing Code do not address rainwater but do address grey and reclaimed water. The group discussed the appropriate color for pipe using harvested rainwater. No consensus was reached, but it was agreed that purple piping should not be used. The group discussed the need for a national policy to address the appropriate pipe color rather than a state recommendation. Bruce Rathburn shared his experience with a situation in which many different types of water and gas were used on site and no color was left for the harvested rainwater. Cindy Haynie will e-mail the group a document from EPA that addresses non-potable water and conservation.

Update from the Rainwater Harvesting Subcommittee

Steve Fain's discussion of the findings of the Rainwater Harvesting Subcommittee was tabled for a future meeting. Members of this subcommittee are:

- Byron Hardin,
- Bruce Rathburn,
- Steve Fain, and
- John Kight, Texas Rainwater Catchment Association.

Training on Rainwater Harvesting Systems

Mike Aldrup, Affordable Lawn Services, asked for assistance in providing Rainwater Harvesting education, with continuing education credits approved by TCEQ, for the San Antonio Irrigation Association meetings in January, February, and March of 2010. Cindy Haynie was asked to do a presentation on TCEQ's rainwater harvesting regulatory guidance. Amy Rivera, TCEQ Public Drinking Water Section, was asked to give a presentation on rainwater harvesting in Australia. John Kight was asked to present findings and to provide a field trip to his residence.

Backflow Prevention Assembly Failure Rate

Karl Goldapp, City of College Station (City), presented the City's findings on the frequency that backflow prevention devices on irrigation systems and construction meters fail. All assemblies in the study were owned by the City and were tested by City BPATs. Mr. Goldapp's findings indicate that within 7.5 years all backflow devices will fail. It was pointed out that College Station has warmer water with fewer minerals than many cities, which could lead to the College Station backflow prevention devices lasting longer. Mr. Goldapp is going to compile detailed information about the type of backflow prevention assemblies and assembly manufacturers to determine whether there is a trend in certain types/makes of assemblies and assembly failure rate. Bruce Rathburn noted that San Antonio sees frequent failure of new backflow prevention assemblies.

Potential Cross Connection Hazards Presented by Frost-Free Hydrants

'Frost-free' hydrants are used as faucets at some parks and commercial locations, such as cemeteries. Frost-free hydrants have a subsurface drain which allows water standing in the column to drain below the frost line and discharge through a weep hole to the outside.

Because the drain port is open when the hydrant is in the off position, it provides a convenient route through which impure groundwater, insects and dirt can enter the hydrant, which could contaminate the water supply in a back-siphonage condition.

A “freeze flow” type of hydrant is available which utilizes a reservoir built into the hydrant and set below the frost line. When the hydrant is turned off, the water in the hydrant barrel drains into the reservoir to prevent freezing. When the hydrant is turned on, the water is evacuated from the reservoir by a piston. Because no external drain is necessary, the possibility of contamination through back-siphonage is eliminated.

Byron Hardin proposed recommending that water systems replace older ‘frost-free’ type of hydrants with ‘freeze-flow’ type hydrants when the older hydrants need repair or replacement. He identified the need to educate the public about the hazards associated with ‘frost-free’ hydrants.

Cross Connection Control and Rain and Freeze Sensors on Irrigation Systems

Byron Hardin and Jerry Lewis, Sundance Irrigation, led a discussion on inspection of rain and freeze sensors on irrigation systems. The TCEQ does not require annual testing of rain and freeze sensors. Manufacturers of these sensors do not have recommendations for testing after the initial installation. The City of Fort Worth requires annual inspections of irrigation systems, including annual freeze and rain sensor testing. Fort Worth allows irrigators and plumbers to perform the inspection.

The group came to the following conclusions:

- Backflow Prevention Assembly Testers are not qualified to test freeze and rain sensors but are qualified to test the backflow prevention assemblies on irrigation systems,
- Backflow prevention assemblies should not be required to be tested at the same time as the freeze and rain sensors, and
- Either a licensed irrigator or licensed plumber should perform the inspection, repairs, and installation of freeze and rain sensors.

Byron Hardin volunteered to serve as the Cross-Connection Control Subcommittee liaison to the Landscape Irrigation Advisory Group on this matter.

Appropriate Backflow Protection on Water Softeners

Amy Rivera discussed one city’s backflow policy regarding water softeners. A city in the Dallas/Fort Worth area is requiring reduced pressure principal backflow prevention assemblies (RPs) be installed upstream of all water softeners; classifying them as health hazards.

She posed the following questions for group discussion:

1. What is the hazard rating of a water softener, given that the cation exchange resin in some softeners is NSF/ANSI 61 certified (as safe for public drinking water)?
2. Is it appropriate for TCEQ to write a policy statement on water softeners?

General discussion followed regarding the possible hazards that could arise by an unprotected cross-connection with a water softener. The subcommittee is in agreement that the drain line must have a proper air gap per the requirements of the plumbing code. It was noted that there are no backflow protection requirements in the plumbing code for the water line feeding the water softener (only for the drain line). The subcommittee agreed that a break in the dual manifold system would result in the backsiphonage of the brine solution (ANSI/NSF 61 certified cation exchange resin) into the water supply, which would not constitute a health hazard.

Concerns with requiring an RP on every potable water line feeding a water softener:

- Overkill- inappropriate assessment of degree of hazard creates the potential for political backlash and an end to political support of the City's cross-connection control program.

Conclusions reached by the subcommittee on this issue were:

- The subcommittee does not deem water softeners to pose a health hazard risk, but acknowledge that it is up to every jurisdiction to determine the degree of hazard each device poses and to require appropriate backflow protection based on the hazard posed. If they determine that water softeners are a health hazard, the water purveyor must write this decision into their plumbing ordinance in order to be able to enforce it.
- It is not in the TCEQ's jurisdiction to write policy on plumbing past the meter. It may be within the Texas State Board of Plumbing Examiners' jurisdiction.

Discussion Item: Backflow Protection at Interconnections between Purchaser and Seller Public Water Systems

Amy Rivera posed the question: What kind of backflow protection should be required between public water systems that buy/sell water to one another? A question has arisen in which a public water system wishes to purchase water under direct pressure from a seller without an RP or an air gap in order to avoid the cost of re-pressurizing the system.

Tom Nguyen, City of Houston, and Bruce Rathburn both stated that SAWS and the City of Houston require either an RP or an air gap as protection at interconnections. The City of College Station has agreements with water systems of similar quality (superior rated water systems) allowing a direct interconnection (no RP).

It was noted that the documents establishing sanitary control (as required by 30 TAC 290.44(g)(1)) can require the purchaser to maintain a rigorous cross-connection control program in order to receive water via a direct connection.