

Texas Commission on Environmental Quality
Cross-Connection Control Subcommittee
December 3, 2008
Building F, Room 2210
9:00a m - 3:00 pm

Welcome and Introductions

Announcements

1. A TWUA training event may require the next quarterly meeting to be rescheduled from Wednesday, March 4, 2009 to a new date. **NOTE: THE MARCH MEETING HAS BEEN RESCHEDULED TO TUESDAY, MARCH 10, 2009.**
2. The other quarterly meetings for 2009 will be held on:
 - Wednesday, June 3,
 - Wednesday, September 2, and
 - Wednesday, December 2.
3. Licensed participants of the Cross-Connection Control Subcommittee do not earn continuing education units (CEUs) towards license renewal by attending meetings of the Cross-Connection Control Subcommittee.
4. There will be no TCEQ staff-initiated changes made to 30 TAC Chapter 290 in the near future.
5. Per discussion at the last meeting, Danny Lytle volunteered to petition the legislature to require oversight of private wells with respect to cross-connection control and aquifer protection. Mr. Lytle presented a petition for rule change to the TCEQ at this meeting of the Cross-Connection Control Subcommittee.
6. A list of approved Backflow Prevention Assembly Tester training providers is now available online at:

http://www.tceq.state.tx.us/assets/public/compliance/compliance_support/Licensing/conteducationforbpat.pdf

Adoption of minutes from meeting held September 3, 2008

Minutes were adopted without discussion.

Update on Status of Guidance Documents

- RG-345: *Backflow Protection on Water-Based Fire Protection Systems*- this document was finalized and republished in October 2008. The new version is available online at:

http://www.tceq.state.tx.us/files/rg-345.pdf_4376282.pdf

- RG-206: *A Public Water System Guide to Customer Service Inspections*- this document is currently under revision. Additional language regarding cross-

connection control at RV Parks needs to be added. The final draft of the revisions should be available at the next quarterly meeting.

- New RG: *Establishing and Managing an Effective CCC Program*- this document is currently being drafted.
- New SG: *Backflow Incident Protocol*- a draft of this document is currently in the TCEQ internal peer-review process.
- New RG: *A Public Water System Guide to Preparing an Emergency Response Plan to Prepare for a Backflow Incident*- a draft of this document is currently in the TCEQ internal peer-review process.

Byron Hardin with Brown and Caldwell, Fred Baird with Bac-Flo Unlimited, and Bruce Rathburn with the San Antonio Water System agreed to review the two documents above once the internal peer-review process has been completed.

- New SG: *Compliance with the CSI Requirement*- a draft of this document is currently in the TCEQ internal peer-review process.
- New SG: *Determining Where Backflow Prevention Assemblies are Required*- this document is currently being drafted.

Byron Hardin recommended comparing the information in the revised RG-206 to the information in the guidance document regarding outsourcing Customer Service Inspections prepared by TCEQ's Small Business and Local Government Assistance (SBLGA) program. SBLGA's guidance document is available online at:

<http://www.tceq.state.tx.us/assets/public/assistance/sblga/c4simodel.pdf>

Possible Strainer Requirement for Backflow Prevention Assemblies

Changes in the Landscape Irrigation Rules (30 TAC Chapter 344) require Y-type strainers to be placed upstream of all double check valve assemblies placed below grade on irrigation lines. An explanation for the reasons behind this requirement was not available at the time of the meeting. Some recommendations have been made to include the requirement of installation of a strainer for all backflow prevention assemblies installed on irrigation systems.

Fred Baird recommended against the use of strainers on double check valve backflow prevention assemblies installed on irrigation systems. Key points included:

- Strainers create a drop in downstream water pressure.
- 6 inch and 8 inch strainers are very expensive.
- Strainers require 12 inches of access clearance below them. This would require an increase in the size of the hole/box containing the below-grade

assembly and strainer. Increased size means increased price- especially if digging through rock, as is common in Texas.

- Strainers need routine maintenance and cleaning in order to function properly. They are subject to breaking over time and pieces of the strainer have been known to become lodged in backflow prevention assemblies, rendering the assemblies ineffective. Increased maintenance and repair transfers as greater cost to the irrigation system owner.

Extensive group discussion of Y-strainers resulted in general agreement that members of this subcommittee **do not recommend the required use of Y-Strainers on double check valve backflow prevention assemblies installed on irrigation systems.**

Many sub-committee members agreed that the TCEQ should adopt Houston's irrigation system requirements:

- Require backflow prevention assemblies installed on irrigation systems to be installed above grade due to the necessity of accessibility to assemblies for testing and maintenance.
- Prohibit the installation of Double Check Valve backflow prevention assemblies on irrigation systems.

Backflow Protection Requirements for Water Softeners and Ice Machines

According to Fred Baird, the Uniform Plumbing Code (UPC) states that the drain lines of domestic water softeners and ice machines must be properly air-gapped, while the International Plumbing Code (IPC) states that domestic water softeners and ice machines should have appropriate backflow prevention assemblies installed. The IPC does not specify the appropriate type of backflow prevention assembly which should be installed at domestic water softeners and ice machines. In Mr. Baird's experience, it is possible for resin and brine to backflow through a domestic water softener.

General discussion of whether the subcommittee could reach a consensus about the type of backflow protection (if any) is required for domestic water softeners and ice machines. The discussion included comments regarding the difference in hazard between residential and commercial/industrial equipment, the importance of proper filter maintenance if a filter has been installed, and the practice of some water systems to require installation of reduced-pressure principle backflow prevention assemblies (RPs) at this type of equipment just to ensure that the water system is not liable in the event of backflow from the equipment. In addition to domestic water softeners and ice machines, backflow protection for soap dispensers and solar water heating panels was also discussed.

Due to the variety of applications that this type of equipment can be used for, as well as the potential complexity of plumbing, the subcommittee agreed that it is not possible to agree on a general statement regarding the appropriate backflow protection required for this type of equipment. Instead, the subcommittee agreed that individuals who are inspecting a facility that contains this type of equipment, possibly during a Customer

Service Inspection, will have to make judgment calls regarding the appropriate backflow protection required. For this reason, it is very important that the individuals doing the inspections receive proper training. Additionally, the subcommittee agreed that requiring the installation of an RP can be “overkill” but that a lack of experience may lead an inspector to require the installation of an RP in order to eliminate liability for the inspector.

Presentation and Discussion on Extent of Public Water System Responsibility/Liability

Presentation on Public Water System responsibility with respect to cross-connection control. The presentation included information regarding EPA’s implementation of the requirements of the Safe Drinking Water Act, EPA’s definition of Maximum Contaminant Level, AWWA’s policy statement on cross-connection control, the cross-connection control requirements of Arkansas, Florida, Utah, and Washington, the current regulations in Texas, including “Appendix I,” and the need for Public Water Systems to coordinate with Building Inspection Departments and to educate customers on the topic.

General discussion of the presentation, including many concerns that Public Water Systems that operate outside the jurisdiction of a Building Inspection Department should be aware that internal cross-connection control programs are preferable to premises isolation since internal programs protect not only the public water distribution system but also the customers at the facility in question. Larry Bell, Texas Rural Water Association, stated that due to the lack of a permitting system, many rural water systems are at a disadvantage because they are not notified of modifications to plumbing systems. The general consensus of the group was that adequate internal cross-connection control programs are preferable to premises isolation.

Presentation of the Total Coliform Rule/ Distribution System (TCRDS) Federal Advisory Committee Recommendations for Changes to the Total Coliform Rule

Amy Rivera

- Information about revisions to the TCR is available at: http://www.epa.gov/safewater/disinfection/tcr/regulation_revisions_tcrdsac.html
- One of the options that is being explored during the revision of this rule is to provide incentives (such as reduced sampling requirements) to public water systems if the system can demonstrate that the distribution system is proactively limiting threats of bacterial contamination. One way a public water system could demonstrate good management of the distribution system is by running an effective Cross-Connection Control Program.
- Overview of TCEQ current methods of assessing Cross-Connection Control Programs ensued, followed by a discussion of best methods for determining criteria for evaluating Cross-Connection Control Programs. Suggestions included:
 - Increase staff for PWS Cross-Connection Control Program,
 - Require reporting of Backflow incidents to TCEQ,

- FOD staff provide a list of facilities where backflow protection may be required based on yellow pages searches (ex: funeral homes in the PWS' jurisdiction) and ask for CSI forms and BPAT T&M forms, and
- Art Smith with City of Rockport and Steve Fain with TEEX volunteered to work as a subgroup to propose a list of guidelines for evaluating whether a Cross-Connection Control Program is 'adequate'.

Presentation on Cross-Connection Control at RV Parks

Daniel Dick with Safewater gave a presentation regarding his observations of cross-connection control at RV Parks in 23 states. Mr. Dick's conclusions were that the largest contributor to cross-connection control violations was lack of knowledge, so education on this topic is vital. Additionally, Mr. Dick noted that most violations could be prevented by prohibiting the use of a wye connection at the water supply connection. Mr. Dick recommends that an RP be installed at the service connection of all RV Parks.

A follow-up presentation by Joel Klumpp included information about addressing this issue at the national level by requesting the review boards of the IPC and UPC examine this issue, by coordination with the Recreational Vehicle Industry Association, and by publishing educational articles regarding cross-connection control and backflow prevention in RV trade magazines. To address this issue at the state level, the following recommendations will be added to a regulatory guidance document:

Public water suppliers should:

- Perform periodic inspections of RV Parks that are within their service area;
- Educate managers of RV Parks about blackwater tank flushing devices;
- Encourage managers of RV Parks to inspect every RV that enters their park, especially when the RV owner is connecting the RV to the RV Park's potable water distribution system. Managers of RV Parks should prohibit the use of "Y Hose Adapters" which enable an RV owner to establish connections from a potable water hose bibb to both the RV's potable water system and sewer flusher connection at the same time.
- At a minimum, require premises isolation at the master meter by the installation of a reduced-pressure principle backflow prevention assembly at every RV Park within their service area.

Summary of Discussion from September 3, 2008 Meeting Regarding Chapter 290 Regulations for Cross-Connection Control.

Discussion regarding the Chapter 290 regulations for cross-connection control and potential changes to the regulations. Of the recommendations for changes made at the September 3, 2008 meeting, the following are the five recommendations considered by the group to be most important, with number one being the most important:

1. **Issue:** The Water Utility Superior Rating should include specific language relating to having an approved backflow prevention program in place in order to qualify as a Superior Water System.

Recommendation: Development of a TCEQ cross-connection control program approval process designed to establish a standard for all Public Water Systems. This standard would utilize best management practices and include key program components that must be met in order to meet compliance.

2. **Issue:** Customer Service Agreements may only apply to water system customers who have signed the agreement.

Recommendation: Consider revising 30 TAC 290.47(b) Appendix B (Sample Service Agreement). If every PWS customized their own service agreement and included 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, and then insert a copy in the water bill and ask all customers to sign it and return it, you would place all your customers on notice they play by the rules or buy water from someone else.

3. **Issue:** Need to develop wording in Chapter 290 that requires Public Water Systems to report all cross-connection incidents to the potable water supplies. This should include specific language relating to having an established TCEQ-approved reporting document and guidelines on how and when to report incidents along with an investigation to the cause and public health effect of the incident.

Recommendation: Development of a TCEQ Cross-Connection Control incident reporting program designed to track incidents and determine if existing boil water notice procedures will need to be implemented. This requirement would help develop a state tracking system for use in tracking frequency and causes of backflow prevention occurrences.

4. **Issue:** Backflow protection at the service connection (30 TAC 290.44(h)(5)) needs to be reworded to clearly give the water purveyor the authority to conduct inspections past the service connection by TCEQ, not the TSBPE via a plumbing code. The current wording allows for interpretation on who has jurisdiction when an internal inspection is required.

Recommendation: Revise 30 TAC 290.44(h)(5) to read: “The use of a backflow prevention assembly at the service connection (site containment) shall be considered as additional backflow protection and shall not negate the use of backflow protection on internal hazards (hazard isolation) as outlined and enforced by local plumbing codes and cross connection ordinances. Both containment and isolation are tools to be used where required in the judgment of the cross connection control inspector to protect the public and the private drinking water supply systems.”

5. **Issue:** Need to develop a stand alone Service Agreement section out of 30 TAC 290.46(i) Plumbing Ordinance that supports the Service Agreement sample found in 290.47(b). Currently the language provides for either or option.

Recommendation: Require all Public Water Systems to adopt a Customer Service Agreement.

A suggestion was made that the Subcommittee recommend the above changes be made to the Chapter 290 regulations and that this recommendation be passed through the Drinking Water Advisory Workgroup.