

**Texas Commission on Environmental Quality  
Cross-Connection Control Subcommittee**

**March 3, 2010**

**Meeting Summary**

**Welcome/Introductions/Announcements**

1. The next meeting of the subcommittee is scheduled for Wednesday, June 2, 2010, and will be facilitated by Joel Klumpp, TCEQ Public Drinking Water Section.
2. The Deadline for nominating a public water system for the Outstanding Cross-Connection Control Program Award is May 31, 2010. Criteria for achieving this award and nomination forms can be found on the TCEQ's website at the following web address:  
*[http://www.tceq.state.tx.us/permitting/water\\_supply/pdw/recognition/crossconnectioncontrol.html](http://www.tceq.state.tx.us/permitting/water_supply/pdw/recognition/crossconnectioncontrol.html)*
3. The subcommittee voted by a majority to continue acting as the forum for discussions regarding rainwater harvesting. As such, the subcommittee will designate the last one and a half hours of its quarterly meetings to hold discussions of rainwater harvesting.

**Vote to adopt minutes from last meeting**

Minutes were adopted without discussion.

**Update on Chapter 290 Rule Petitions**

Members of the Cross-Connection Control Subcommittee submitted three petitions for rule change to the Commission on October 20, 2009. The petitions proposed the following changes to the Chapter 290 regulations:

The petition concerning reporting of backflow incidents

1. Require public water systems to report all confirmed backflow incidents to the Commission.
2. Clarify language found in §290.46(j)(2) that authorizes public water systems to terminate a customer's water service based on the presence of a health hazard(s) at the customer's residence/facility.

The petition concerning recognition as a superior or approved public water system

1. Add a requirement to the existing criteria for the "Superior Public Water System" designation found in §290.47(a)(1). The new criterion would require a public water system to have an approved backflow prevention program in order to be eligible to be recognized as a "Superior Public Water System."

The petition concerning sample service agreement

1. Require all public water systems to adopt a customer service agreement and a state-approved plumbing code or regulations.
2. Define the term "customer" in the Sample Service Agreement found in §290.47(b) to extend the authority of the agreement to apply to all customers of a public water system.

The rule petitions were considered by the Commissioners at the December 9, 2009 Commissioner's Agenda meeting and were denied. However, during review of the petition, TCEQ staff noted that reporting backflow incidents is already required by the regulations found in Title 30 of the Texas Administrative Code (30 TAC), Chapter 290, Section 290.46(w)(5). Under this section of the regulations, a backflow incident qualifies as an "accident that results in damage to the public water system" and consequently must be immediately reported to the Commission by the agency's toll-free reporting phone number: 888-777-3186. TCEQ staff are including information about this requirement during presentations at conferences and in agency mail-outs.

### **TCEQ's Recourse against Delinquent BPATS**

Terry Thompson, Team Leader of the TCEQ's Occupational Licensing Team spoke regarding the options available to public water system managers who seek recourse against backflow prevention assembly testers (BPATs) who fail to turn in or falsify backflow prevention assembly test and maintenance (T&M) reports.

Mr. Thompson stated that one option is to develop a case against the BPAT in order to have TCEQ revoke or suspend his/her license. He stressed the need for water system personnel to document all warning letters and notices sent to the BPAT, as well as any falsified T&M forms, in order to develop a case of tester negligence, misconduct, or incompetency to show before an administrative law judge.

Some cities have a policy to notify their customers when it is time for the annual inspection of the backflow prevention assembly installed at their facility. If the customer fails to turn in the T&M report in time, the city's code enforcement department issues the customer a citation. Some water systems have noted that the BPAT will not submit the T&M form until the customer pays him/her. Involving code enforcement is an incentive for the customer to pay the BPAT, which in turn should ensure that the BPAT submits the T&M form in a timely fashion."

### **Overview of Changes in USC's 10th Edition CC Manual**

Troy Baird, Bac-flo Unlimited®, gave a review of the changes found in the recently released 10th edition of the University of Southern California (USC) Foundation for Cross-Connection Control (CCC) and Hydraulic Research's Cross Connection Manual.

The 10th edition contains several new chapters that cover new topics, such as the history of cross-connection control, hydraulics, elements of a backflow prevention program, the anticipated role of the Environmental Protection Agency in CCC, introduction of the role of other regulatory agencies, CCC surveys, common equipment and facilities requiring backflow prevention, new field test procedures, evaluation of gauges, and new appendices. Water purveyors, testers, and trainers will need to be made aware of these significant changes.

### **Updated BPAT Curriculum Guidance**

TCEQs' Occupational Licensing Section presented an updated curriculum guidance document titled *Licensing of Backflow Prevention Assembly Testers*. This document states that backflow prevention assembly testing procedures must be in accordance with the latest edition of the University of Southern California (USC) Foundation for Cross-Connection Control and Hydraulic Research standards. The subcommittee members were

requested to review the updated document and comment on the changes. Occupational Licensing Section staff would like to finalize the updates in March. If anyone is interested in providing comments or would like to review the document, please contact Ms. Linda Saladino at (512) 239-0178.

One question arose during this discussion regarding the recent publication of a new edition of the USC Cross-Connection Control manual. Specifically, the question was whether Backflow Prevention Assembly Tester (BPAT) training providers would be required to revise and resubmit their course curriculum for approval. At this time, TCEQ staff do not believe that resubmittal of course curriculum will be required.

TCEQ staff are planning a workshop for BPAT training providers to be scheduled in August or September of 2010. This workshop will focus on the changes in the new edition of the USC Cross-Connection Control manual. Once a date has been finalized for this workshop, BPAT training providers will be contacted with additional information. After this point in time, all approved BPAT training providers should reference the field test procedures in the 10th edition of the USC CCC manual.

### **Approval of Training at Association Meetings**

Linda Saladino with TCEQ's Occupational Licensing Section gave a presentation regarding TCEQ's requirements for approval of training at association meetings which focus on backflow prevention and customer service inspections. American Backflow Prevention Association meetings were discussed in detail. Key points from this presentation included:

- TCEQ regulations address training approval in 30 TAC, Section 30.28. A regulatory guidance document, RG-373 "Approval of Training for Occupational Licensing," provides additional guidance.
- Approval of training hours is determined by the actual contact time during training.
- Approvable training at association meetings must be a minimum of one hour but no longer than two hours.
- The content at ABPA meetings is assumed to be appropriate for BPAT and Customer Service Inspector (CSI) licenses. If presentations are applicable to other licensing programs, approval should be requested from TCEQ. Bruce Rathburn will work with TCEQ to update chapter contact info and provide the list of topics and course codes ABPA is currently using to provide and report training at meetings.
- Presentations at association meetings must not promote or endorse the products or services of a manufacturer, distributor, or service provider.
- TCEQ regulations include standards for where meetings are held.
- In order to be eligible for training approval, presenters at association meetings must be subject matter experts.

### **Standards for Accuracy Verification of Differential Pressure Gauges**

The 10th edition of the University of Southern California (USC) Foundation for Cross-Connection Control (CCC) and Hydraulic Research's Cross Connection Manual contains new standards for verification of differential pressure gauges. With these new standards comes inconsistency in verification methods throughout the state, as gauge verifiers dispute the validity of the new and old standards. Mr. Bill Hamrick, ATB Services, Inc. suggested that subject matter experts collaborate with the TCEQ in the development of a

new regulatory guidance to set standards for gauge accuracy verification. Mr. Hamrick and Mr. Charles Ansley, Metroplex Training, have volunteered to work with Mr. Joel Klumpp and Ms. Amy Rivera, TCEQ, to develop this regulatory guidance.

### **Repair of Backflow Prevention Assemblies on Irrigation Lines**

It is the consensus of staff in TCEQ's Landscape Irrigation Program that individuals who hold a TCEQ Irrigation license are **not** allowed to repair backflow prevention assemblies installed on irrigation systems unless they also hold a BPAT license.

### **Irrigation Advisory Council Meeting Overview**

Mr. Byron Hardin, Hardin & Associates, gave a synopsis of the presentation he gave to the Irrigation Advisory Council at their February 18, 2010 meeting. His presentation focused on outlining the political nature of the testing requirements for assemblies installed on irrigation systems with health vs. non-health hazards.

### **Case Studies of two Backflow Incidents in the Media**

Joel Klumpp gave a presentation that explores how the media portrayed discovery of cross-connections at two instances. The main points of the presentation included:

- Public water system staff are responsible for knowing what hazards are present in their potable water distribution systems.
- Cross-Connection Control measures protect the distribution system.
- Staff at public water systems should not rely on the media to educate the public regarding cross-connection control and backflow prevention.

### **City of Austin's Auxiliary Water Use Case Study**

Cory Harmon with the City of Austin gave a presentation on cross-connection control. Mr. Harmon began by describing a backflow incident that came to his attention: a cross-connection with a private well at a residence resulted in 95,000 gallons of untreated groundwater being pumped into a public water system's distribution system. The backflow incident is not known to have resulted in any illnesses.

The focus of Mr. Harmon's presentation was on cross-connection control at a new "green" development in the City of Austin. The residences in this development will be equipped with rainwater harvesting systems to be used for toilet-flushing, laundry, and irrigation. TCEQ's regulations currently prohibit the use of rainwater for potable purposes. No consensus has been reached at this time regarding whether water used for laundry is considered a potable or non-potable use. Several issues have already arisen at this development, including color coding of potable and rainwater piping and proper signage at rainwater taps. Questions posed during the presentation:

- How does a water and wastewater utility calculate charges for wastewater service if rainwater is entering the waste stream?
- Should it be required that rainwater used for non-potable indoor purposes be treated to a known quality?
- Should the contractor installing rainwater harvesting systems be required to have a license? If so, what license?
- Should initial and subsequent cross-connection testing be required for sites with rainwater harvesting systems that are also served by a Public Water Supply?

Currently the City of Austin is addressing cross-connection control of auxiliary water sources by preparing a proposed ordinance that would adopt and amend the 2009 Uniform Plumbing Code. Additionally, the City has prepared a proposed update to its Utilities Criteria Manual that closely follows the proposed ordinance.

### **UT: Quality of Rainwater Harvested from Different Roofs**

Ms. Carolina Mendez, UT Cockrell School of Engineering, presented preliminary results of her research on the impact of roofing material on harvested rainwater quality. She cited two studies done in the past that found high metal concentrations in harvested rainwater.

Her study looked at the quality of harvested rainwater at pilot-scale shingle, metal, concrete tile, green, and cool roofs built at the Lady Bird Johnson Wildflower Center, and also examined the quality of harvested rainwater at full-scale shingle and metal roofs on actual houses in Austin. Although she collected samples from several rain events in Austin, results shown only depicted one, representative, rain event.

Ms. Mendez's findings show that in both the pilot and full scale studies, the rainwater quality did not meet the EPA's standards for public drinking water in the following areas: total coliform, fecal coliform, pH, turbidity, iron, and aluminum. Since the rainwater coming off all roof types would require further treatment before it is suitable for potable use, none of the roofing materials were clearly superior to the others. The green roof consistently had the lowest values of total suspended solids, turbidity, nitrite, and some metals, but it also had the highest values of dissolved organic carbon. Metal and tile roofs are commonly recommended for rainwater harvesting, but this data suggests that shingle and cool roofs also might be considered.

Further research topics were discussed by the group, including studying different techniques to treat rainwater.

### **Other Issues Stakeholders Would Like to Discuss**

Byron Hardin showed pictures of a cross-connection that recently came to his attention: between a potable water line and a sewage manhole. It is not known how long the cross-connection has been in existence, but it was corrected immediately by the utility staff that discovered it.

Shawn O'Donnel with the City of San Marcos asked the subcommittee members if they believed premises isolation should be required for an apartment complex with an on-site sewage wet well. The consensus of the group is that if no water is piped to the wet well, no backflow prevention is necessary.

Bypass Arrangements at Critical Water Facilities – tabled until the June 2, 2010 meeting.