

Texas Commission on Environmental Quality Cross-Connection Control Subcommittee

September 6, 2018

Building F, Room 2210

Time: 9:00 – 3:00

Note: This draft meeting summary is posted for review and comment by meeting attendees. It will be available for comment at the next meeting of the TCEQ Cross-Connection Control Subcommittee at which time it will be voted on for adoption.

Draft Meeting Summary

Commencement

Mr. Al Fuentes

The meeting commenced on time with the general announcements and introductions by meeting participants.

Comment was requested on the previous meeting summary which was provided with the meeting invitation. No comment was voiced, and a motion was made to adopt the meeting summary as-is. A second to the motion was heard and the vote to adopt was unanimous.

Mr. Al Fuentes, TCEQ Cross-Connection Control Program announced that he accepted a transfer to the Office of Compliance and Enforcement and will no longer be the TCEQ Cross-Connection Control Program Coordinator.

The next meeting of this Subcommittee will be held on Monday December 3, 2018.

Update from Occupational Licensing

Mr. Deric Patton

Mr. Deric Patton, TCEQ Occupational Licensing (OL), provided an update from the OL section. At the previous meeting of this subcommittee, a request was made for the average number of attempts made to pass the Customer Service Inspector (CSI) and the Backflow Prevention Assembly Tester (BPAT) exams. The results still need to be verified, but the preliminary results are 2.24 attempts for the CSI exam and 2.4 attempts for the BPAT exam. This data will prove beneficial when identifying potential problems with approved training providers.

The question was raised regarding the fees charged by computer-based testing (CBT) sites. Ms. Linda Saladino, OL Section, briefly discussed contractual arrangements with the sites and the results of a recent audit. It was determined that TCEQ cannot dictate the fees charged by the CBT sites only that they are comparable to the fees charged for other tests administered by the same site. A suggestion to add the cost range for different CBT sites to the TCEQ website was offered to allow applicants to shop for a more affordable testing site.

There was also brief discussion regarding applicants sitting for an exam and exhausting all four allowed attempts at taking the exam in one sitting. The applicant would then have to wait one year before he can sit for the exam again. It was agreed that this could compromise exam content and applicants should have a waiting period to study before sitting for the test again.

Below are the 4th Quarter (June 1 - August 31, 2018) numbers for the OL section:

	New Applications	Renewal Applications	Total Applications	Tests Given	Tests Passed	Percent Passed
BPAT Test	131	306	437	268	120	44.8%
CSI Test	91	98	189	171	83	48.5%

	New Licenses	Renewal Licenses	Total Current Licenses
BPAT License	107	342	5,836
CSI License	77	112	2,042

Landscape Irrigation Program Update

Ms. Melissa Keller

Ms. Melissa Keller, Program Support Section, provided an update on the Landscape Irrigation Program (LIP). Interviews have been conducted for the new members making up the Irrigators Advisory Council (IAC). The final selections will be proposed to the Commissioners at the October 31, 2018 agenda. Their terms will begin on February 1, 2019. Ms. Keller also provided a brief update on the recent rule petition by the IAC. Recommendations based on stakeholder input have been posted to the LIP webpage and will be provided to the Commissioners at the September 19, 2018, agenda meeting.

Cross-Connection Control Program Update

Mr. Charlie Middleton

Mr. Charlie Middleton, TCEQ Cross-Connection Control Program, provided an update on this program. The majority of the work in the program continues to be the finalization of the record number of program surveys conducted. Mr. Middleton provided a description of the typical questions asked during a survey and the deficiencies cited. Work also continues on the many requests for approval of alternate forms.

Review of Appendix F

Ms. Christi Williams

Ms. Christi Williams, Public Works Department, City of Leander, led the discussion on some concerns regarding 290.47(f), Appendix F. This appendix is a list of sites that typically pose a contamination hazard to the potable water supply and the required backflow prevention. There was some discussion on the caveat that accompanies some of the listed sites which says, "Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RPBAs is required." Ms. Williams listed some of the types of equipment that make it challenging to determine whether backflow prevention is required such as:

- Commercial kitchen equipment

- Chemical dispensers
- Swimming Pools
- Vending Machines

It was also determined that deciding if backflow prevention is required should be on a case-by-case basis regardless of listing in Appendix F. For example, if a site is listed on Appendix F as requiring an RP at the meter but, a customer service inspection documents that there is no contamination hazard, then backflow prevention is **not** required. A recent backflow event was discussed where CO2 from a vending machine at a pressure of 160 psi overcame the 60 psi supply pressure and backflowed CO2 into the water main. The required RP was not in place.

This discussion included the strong recommendation for the inspection by Customer Service Inspectors of atmospheric vacuum breakers and air gaps used at a site. Since most of these backflow preventers are located on the customer's side of the meter, the question was asked, "What if there are two regulations, one from the plumbing code and one from TCEQ, that apply to the same situation?" It has historically been the position of the TCEQ that in cases where there are two regulations that can be applied, the more stringent regulation should be the one that is applied.

Type II Assemblies and Test Reports

Mr. Al Fuentes

Mr. Al Fuentes, TCEQ Cross-Connection Control Program, led the discussion on documenting the results of Type II Assemblies. Due to the configuration of these assemblies, it is not possible to record the testing of these on the official TCEQ form. After some discussion, testers and water systems can approach this problem in one of three recommended ways:

- I. The water system can develop its own form and submit it for approval;
- II. The tester can use two forms (TCEQ No. 20700); or
- III. The tester can use one form (TCEQ No. 20700) and use the Remarks section to record the additional data.

There are challenges also in tracking these because this type of assembly has two serial numbers, one for the main assembly and one for the bypass check valve. Even though the official form has recently gone through some major changes and updates, the subcommittee recommended changing the official form to include Type II assemblies.

Private Wells and Irrigation Systems (344.50)

Mr. Al Fuentes

Mr. Fuentes addressed the apparent confusion by some water systems which believe that there is a public water system requirement to protect the aquifer when using a private well for irrigation. The appropriate Landscape Irrigation Rule was cited:

344.50(a) Any irrigation system that is connected to a public or private potable water supply must be connected through a commission-approved backflow prevention method.

This means that those irrigation systems that are being supplied by a private well used as a potable water supply must have backflow prevention. This is not necessarily to protect the aquifer, but to protect the people on-site.

There was some discussion on the use of chemicals in irrigation systems and the concern of contaminating the aquifer (groundwater supply). This type of protection is regulated by the Texas Department of Licensing and Regulation (TDLR). One relevant rule is:

RULE §76.107 (a) All irrigation distribution systems or water distribution systems into which any type of chemical (except disinfecting agents) or other foreign substances will be injected into the water pumped from water wells shall be equipped with an in-line, automatic quick-closing check valve capable of preventing pollution of the ground water. The required equipment shall be installed on all systems whenever a pump is installed or repaired, or at the time of a chemical injection, Chemigation or foreign substance unit is added to a water delivery system, if the well has a chemical injection, Chemigation, or foreign substance unit in the delivery system. The type of check valve installed shall meet the specifications listed in subsections (b) - (h).

Other authorities such as Groundwater Conservation Districts should also be consulted.

Gauge Accuracy Certificates to Identify Non-Potable Gauges Mr. Byron Hardin

Mr. Byron Hardin, Hardin & Associates, lead the discussion on the use of the gauge accuracy certificates to identify those gauges used on non-potable water supplies (recycled, reclaimed water). These gauges pose a contamination hazard in that they could cross-contaminate the potable water supply with pathogens from the non-potable source. The TCEQ has a requirement for the annual testing of the gauges used to test backflow prevention assemblies to make sure they are working correctly. This is specified in:

*290.44(h)(4)(B) Gauges used in the testing of backflow prevention assemblies shall be **tested for accuracy annually** in accordance with the University of Southern California's Manual of Cross-Connection Control or the AWWA's Recommended Practice for Backflow Prevention and Cross-Connection Control (AWWA Manual M14). Public water systems shall require testers to include test gauge serial numbers on the Backflow Prevention Assembly Test and Maintenance Report (commission Form 20700), and ensure testers have gauges tested for accuracy.*

Some of the ways that non-potable gauges are currently identified are with purple faces, purple bodies, labeling, etc. Mr. Hardin posed that using the certificates to also identify non-potable gauges would help in making sure that these gauges are not accidentally used on potable water systems.

For consideration also was the possible need for the companies which certify that these gauges are accurate to use a separate set of equipment to be used for testing non-potable gauges.

The following items were discussed during the working lunch:

- Topics for next meeting?
 - Potable and non-potable gauges (Mr. Bill Hamrick, Mr. Mike Cockayne)
 - Sites that have irrigation systems using both non-potable and potable water (Mr. Jim Cantrell)
 - Separation distances for OSSFs and potable meters

- Compliancy Ratio Mr. Doug Goodwin

Mr. Doug Goodwin, VEPO, spoke on using compliancy ratios as indicators of how good your cross-connection control program is doing. This is a ratio of those backflow preventers that have a current test versus the total number of backflow preventers on your system. This will require an automated tracking system (software) to generate this compliancy ratio.

- Backflow Prevention at RV Parks General Discussion

The challenges of backflow prevention at RV Parks were discussed. Of concern were water systems who connect to one or two sites dedicated to RVs instead of creating a typical RV park. These smaller sites are on empty lots or large lots that can accommodate spaces for RVs. These sites are plumbed with potable water and sewer. Too many times, hose bib vacuum breakers are used as backflow prevention when they are not the correct type of backflow preventer to use due to the hydraulic conditions on site (continuous pressure or back pressure). Depending on the conditions on-site, the Pressure Vacuum Breaker or the RP should be used. It was also determined that when an RV is parked and has a connection to the sewer, then it is more likely to pose a contamination hazard to the potable water supply via a cross-connection.

- Mr. James Garvin, New Braunfels Utility, asked about a situation he was encountering. Some residences are having installed drip irrigation systems where the water line at the hose bib is tapped, then a hose bib vacuum breaker (HBVB) is installed, then a timer is installed on the line, then the line extends out to the planting beds to water the plants. It should be noted that the HBVB is not a recognized form of backflow prevention for irrigation systems and so must not be used in these cases.

Testing a Backflow Prevention Assembly on a Fire Suppression System Mr. Buddy Heuberger

Mr. Buddy Heuberger, Hardin & Associates, provided a presentation on testing backflow prevention assemblies on fire suppression systems. This presentation addressed the TCEQ requirement for a backflow prevention assembly tester to be permanently employed by an approved Fireline Contractor. This is specified in:

290.44(h)(4)(A)(ii) Backflow prevention assembly testers may test and repair assemblies on firelines only if they are permanently employed by an Approved Fireline Contractor. The Texas Department of Insurance's State Fire Marshal's Office requires that any person performing maintenance on firelines must be employed by an Approved Fireline Contractor.

Some of the key points of his presentation were:

- As of 2014, there are no National Fire Protection Association (NFPA) requirements for backflow prevention;
- If backflow prevention is installed, it must meet NFPA standard 25 requirements for inspection, testing, and maintenance which include some weekly and monthly tests as well as annual testing;

- Fireline contractors are approved by the State Fire Marshal's Office. Once approved, they are issued a Sprinkler Certificate of Registration (SCR);
- There are different classes of fire line contracting companies and each class is only qualified to test backflow prevention assemblies in certain circumstances:
 - SCR-G This classification allows the fireline contracting company to test backflow prevention assemblies on **any** fire suppression system;
 - SCR-D This classification allows the fireline contracting company to test backflow prevention assemblies only on one or two family dwellings.
 - SCR-U This classification allows the fireline contracting company to test backflow prevention assemblies only on underground piping only. This generally means the assembly is located on the outside of the building in a vault.
- The TCEQ regulation specifies that the tester be "employed" by an approved fireline contractor. During the discussion, it was determined that a person is "employed" if they receive a W-2 form. If the person only receives a 1099 form, then that person is considered a contractor and does not meet the requirements of the regulation.

It should be noted that when a public water system (PWS) receives a Backflow Prevention Assembly Test & Maintenance Report for an assembly on a fire suppression system, the PWS only needs to confirm that the tester was employed by an approved fire line contractor and **does not** need to further confirm that the contractor operated within his certification type.

The question was asked, "Does a fire suppression system need to be installed by a licensed plumber?" Mr. Kelley Stalder, State Fire Marshal's Office, stated that this is decided by the Fire Line Contractor installing the fire suppression system. If a licensed plumber is retained, he must be an employee of the fireline contractor.

At the end of this meeting summary are two different scenarios depicting different installations of backflow prevention assemblies. The subcommittee discussed who can test the backflow prevention assembly in each scenario:

Scenario I: Because this assembly is installed on the plumbing providing water to the general site, which includes the fire suppression system, any licensed tester can test this assembly. Please note that a direct cross-connection has been created in this scenario.

Scenario II: This backflow prevention assembly is installed on a dedicated fire suppression system and must be tested only by a tester permanently employed by an approved fireline contractor.

Backflow Prevention on Aircraft

Mr. Byron Hardin

(EPA Title 40, Chapter 1, Subchapter D, Part 141, Backflow Requirements Regarding Airlines)

Mr. Byron Hardin provided a presentation on protecting the potable water supply on aircraft. His presentation covered:

- The Aircraft Drinking Water Rule (ADWR) was developed in a collaborative rule making process by the Environmental Protection Agency (EPA). It establishes barriers of protection of the potable water for the air carrier industry from disease-causing organisms.
- Drinking water safety for airlines is jointly regulated by the EPA, the Food and Drug Administration (FDA) and the Federal Aviation Administration (FAA).
- An aircraft can be considered a public water system (PWS) if it provides water for human consumption to an average of 25 individuals for at least 60 days out of the year. Aircraft that are considered PWSs must meet the requirements of the Safe Drinking Water Act.
- A 2015 study published in the International Journal of Environmental Research and Public Health showed that the transport vehicles that move the water from the original source (tap to the water main) to the aircraft are the primary source for microorganisms.
- The ADWR requires that each air carrier develop an operations and maintenance plan which should include methods for backflow prevention and cross-connection control.

Other Topics to Discuss?

General Discussion

Mr. Fuentes raised the issue of complaints from testers and some water systems regarding backflow prevention assembly testers not being able to enter the initial test data from the first testing of a backflow prevention assembly when testing for water systems who have approval to use commercially available software to meet the record retention requirements. The form approval process and other outreach methods will be explored to help prevent this. Below is an excerpt from the previous meeting summary where this same issue was also discussed:

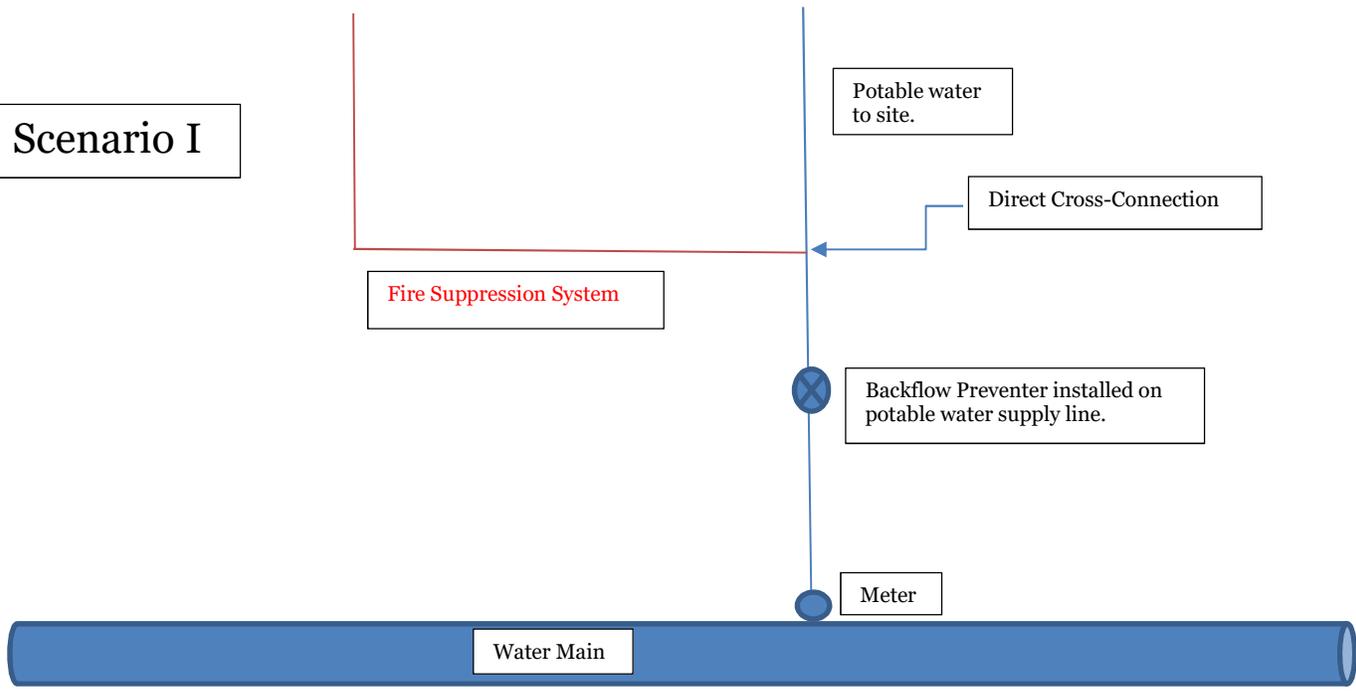
TCEQ regulations require the tester to fill out the test report, this is specified in:

30 TAC §290.46(h)(4)(C) *A test report must be completed by the recognized backflow prevention assembly tester for each assembly tested. The signed and dated original must be submitted to the public water supplier for recordkeeping purposes. Any form which varies from the format specified in commission Form 20700 must be approved by the executive director prior to being placed in use.*

Of concern is the apparent inability of some software companies to allow the licensed tester to enter the test results of the initial testing of a new assembly. What has been happening is, some companies require the tester to send in the first test report (electronically or otherwise) and administrative staff enter the test results. This practice inhibits the accuracy of the information entered and is not allowed per 30 TAC §290.46(h)(4)(C) listed above. Some concerns noted were:

- The tester's remarks are not entered;
- There are inaccuracies due to legibility of the writing;
- Liability for incorrect information. This reflects directly on the tester's license.

Scenario I



Scenario II

