CROSS CONNECTION ADVISORY BOARD MINUTES

Twelfth Public Meeting

Wednesday November 19, 2008
10:00 am to 12:20 pm
Portland State Office Building
800 NE Oregon
Portland OR 97232
971-673-1220  Michael Perry

Board Members in Attendance
1. Chair Monica Anderson, PE, LEED - Balzhiser & Hubbard Engineers - [Engineers]
2. Ray Johnson - City of The Dalles - [Water Suppliers]
3. Jerry Thomas - United Pipe & Supply - [Assembly Manufacturing & Authorized Reps.]

Board Members Not in Attendance
1. Mary Howell - Backflow Management Inc. - [Cross Connection Specialists]
2. Joe McNelly - City of Hillsboro - [Oregon Plumbing Inspectors]
3. Elmer Ostling - [Backflow Assembly Testers]
4. Ronald Robertson - Union Local 290 - [Oregon Licensed Plumbers]
5. Steven West - Eugene Water & Electric Board - [Certified Instructors]
6. Vacant - [General Public]

Other Attendees & Staff
* Kate Mattimore - Backflow Management Inc.
* J. Michael Perry - Cross Connection/Backflow Prevention Coordinator

1. Call to Order / Welcome
Chair Monica Anderson called the meeting to order at 10:05 am. She welcomed all attendees.

2. Introductions - Board and Attendees
The Board Members and other attendees introduced themselves. The Chair noted that there were only three Board Members in attendance and this does not constitute a quorum. The meeting continued as a subcommittee meeting.

3. Additions to the Agenda
Michael Perry had an addition to the New Business. He wanted to discuss the logic of having an RP at the meter for premise isolation.

4. Approval of May Minutes
Since there was not a quorum, the minutes will be approved at the next meeting.

5. DHS Reports
   (1.) Annual Summary Reports
      a. All ASRs for 2007 have been entered. The first Summary of Data from the ASRs is attached. There are three pages. The first covers all systems, the second is for Large Systems [ 300 connections or more ] and the third is for Small Systems [ less than 300 ]. Some points to note in the summary include:
         - Total Assemblies - 230,658
         - Total Tests - 201,195 ( 87%)
         - Total Failures - 5,935 ( 3%)
b. There was consensus that the statistics were lower than really exists. Some reasons the data is under reported include:
   - We still do not have reports from 13% of large systems and 38% of small systems.
   - Some said flushing after an initial failure wasn't a "failure" - it is.
   - With premise isolation at the meter, some water systems don't keep tabs on other assemblies.
   - Some systems don't have records for assemblies before they started a program.
   - There are customers that are not honest about assemblies on their property.
   - Some systems feel initial failures reflect poorly on water systems and don't report all failures.
   - Some systems have not set up a system to accurately record all failures.

c. Although 88% of the Large Systems turned in ASRs, DHS is sending out a follow up this week to remind the systems who are missing their 2007 ASRs to turn them in soon.

d. Sample Annual Summary Reports for 2008 were distributed to the attendees. There are few changes from 2007, mainly clarifying some areas. Instructions are put in boxes above questions instead on separate pages.

e. The 2008 Annual Summary Reports will go out the week of January 1. Staff have removed the 2007 forms from the web site and will put the 2008 forms in January 2, 2009. DHS receive ASRs from 30 to 60 days before the end of the year and the only ones that should do this are systems that close for the winter.

(2.) Certified Testers and Specialists Counts
   a. 982 Testers Only
   b. 338 Specialists Only
   c. 156 Combination Tester and Specialist
   1,476 Total Certifications

(3.) Plumbing Board Report
   a. August 15, 2008
      - In the three months since the last CCAB meeting, there have been two meetings of the Plumber's Board. (In the June 20, 2008 meeting they had already passed guidelines for harvesting rain water to be used as potable water.)
      - The first area approved at this meeting was harvesting rain water for non-potable uses. This could be for residential use of the water to flush toilets or to be used as irrigation water for non-food crops.
      - The second item approved was harvesting "grey" water for non-potable uses. This would be for use in flushing toilets or urinals. The water would come from anywhere in a residence except the kitchen and water from toilets.
      - All these uses are now for residences and duplexes.
      - It specifically does not allow these uses in buildings that house schools or daycare facilities.
      - It also does not allow this in apartments because of potential problems in lack of maintenance and because tenants would not have an option to not use this water.
      - They also approved a new penalty/fine matrix to be used when they fine people not getting permits or using people that are not licensed plumbers or apprentices. The Buildings Codes staff, and to a lesser degree the Plumbing Board, does spend a lot of time and money on enforcement.
b. October 17, 2008

- Gabriel Schiffer, the new Sustainability Coordinator, presented a proposal to change the rules for the three new water reuse areas.
- Gabriel said by eliminating commercial buildings, schools and daycare centers; the Board was "restraining trade".
- She proposed two changes to the rules approved in June and August.
- She first wanted all three areas covered to include commercial buildings (both offices and apartments).
- Secondly she wanted all three areas to include schools and daycare buildings.
- Chairman Ken Carlson was very upset at the "restraining trade" remark. He reminded everyone that the purpose of this Board is to protect the health and safety of the people in Oregon. There is no element in the rules to make it easier for businesses to make money. He reminded everyone that all three initial approvals were written by the Building Codes Division.
- When discussing the proposed changes to add commercial buildings, Ken Carlson reminded everyone that there are no "ongoing elements" in the code. The Plumbing Code stops once the final inspection is passed. If any of the three areas were to be amended to add commercial buildings, there is no way to know if they will be properly maintained. This maintenance is very important to keep these systems safe. As it exists for residences, the home owners should want to care for their own health by maintaining their systems. In hard times and even in good times, there is no way to guarantee maintenance and therefore safety. Maintenance is often the first thing to go in times of financial hardships. It is also putting new and mostly untrained people in the "water business".
- The Plumbing Board consists of seven members, although the position for the "general public" is not currently filled. As specified, of the five members there, it would have required four members to approve anything. Ken Carlson and Michael Perry voted against the proposal for adding commercial buildings and it failed to pass.
- The second change proposed by Gabriel was to amend the rules to allow the three areas to add schools and daycare centers. Michael Perry said that even if it could be proved that there could never be a case where the safety of children is possible, he felt it was very inappropriate to do so. It could be perceived that BCD and the Plumbing Board were not protecting children. Ken Carlson and Michael Perry voted against this proposal and it also failed.

(4.) Voluntary Removing Two Testers.

Two Testers have voluntarily agreed to quit testing and were removed from all certified lists.

6. Old Business

(1.) Report from Ray Johnson on History, Present Condition and Recommendation on Certified Testers doing Repair.

a. A copy of the 14 page report is attached to these minutes.

b. Page 1 covers an Introduction to the Repair Issue.

c. Page 2 is a proposal from the Sub-Committee of the Cross Connection Advisory Board covering proposed changes.
d. Pages 3, 4 and 5 is a History of the Repair Issue.
e. Page 6 is Memo from Kate Mattimore and the Oregon Cross Connection Specialists Regional Subcommittee (OCCSRS).
f. Pages 7, 8, 9 and 10 cover:
   • Plumbers
   • Consumers
   • Testers
   • Building Codes Division (BCD)
   • Department of Human Services (DHS)
   • State Uniformity Issue
   • ORS 693.103 Limited Specialty
   • ORS 693.135 Fees and Rules
   • ORS Chapter 479 Protections
   • OAR 918-695-0100 Procedure Proposals

g. Pages 12, 13 and 14 from Stephen West of EWEB
h. A lengthy discussion ensued. The Subcommittee and guest were unanimous in their agreement that something must be done to find a way allow Testers to do some repairs when an assembly fails. Contact with Terry Swisher has confirmed that the Plumbing Board and BCD will not take action to allow any type of limited license to repair. The OCCSRS's proposal would attempt to convince and allow this type of limited license. Since the election is over, the Lobbyist will begin again to work toward this goal. The CCAB and OCCSRS now understand that DHS cannot take a stand on legislation until it is finalized and is asked for information by the Legislature and Department of Human Services.
i. Page 12 is Steven West's October 15, 2008 Memorandum to the Drinking Water Advisory Committee (DWAC) concerning the repair issue. The next two pages are Mr. West's "Straw Man" Backflow Assembly Repair Training Proposal. This outlines a possible curriculum and hands on approach.

(2.) Monica relayed Steven West's position on his Memorandum to DWAC, and his position on moving the Tester Certification to the Building Codes Division. As all members know, it is very important for Testers to be allowed to do some repairs. This ongoing problem has been a difficulty for too long. The proposal to put the Tester certification under the BCD has come up for at least the third time. Jerry Thomas emailed Board Members with a copy of a proposed idea from Ron Murray of Union 290. The Board was unanimous in opposing this concept. The Board believes this would eventually lead to the destruction of Oregon's Cross Connection/Backflow Prevention Program.

7. New Business

(1.) Three Proposed Changes to the CCAB Bylaws
The bylaws of the Cross Connection Advisory Board can be changed by the Board if they give at least 14 days notice. Inclusion in these minutes is deemed to constitute the required notice and it is filed on posting on the DHS web site. In order to give ample notice, Ron Hall would like the Board to discuss this at today's meeting and then vote on it at the February meeting. Possible changes to this proposal could be discussed at the November 2008 CCAB meeting and the February 2009 meeting. The DWP would like the Board to consider changing the following three items:
a. In section (3.5) of the CCAB bylaws; it states, in part, that "A board member may not serve more than two consecutive terms". The DWP would like to eliminate this sentence. Although we all understand the need for "new blood", with the history of turnover in the
recent past, our more urgent need at this time may be continuity and cooperation. As with all bylaw changes, the Board makes the final decision.

b. Eliminate the sentence in the CCAB Bylaws (3.6) that states "Officers shall be eligible for no more than two terms in the same office". The rational is similar to (a.). The Board Bylaws would still only allow one consecutive term for either position.

c. Staff would also suggest the Board consider one of the features of the DWAC. The Drinking Water Advisory Committee allows members to have an appointed "Alternate". With CCAB’s approval, each board member could pick a formal Alternate. This person would have the same authority as a Board Member for one meeting. They would have the right to vote on issues. Per Oregon rules for Boards and Committees, as things exist now, in order for an item to pass at a CCAB meeting, it would need to have 5 "YES" votes. This is with 5, 6, 7, 8, or 9 Board members present. The CCAB has not had a quorum in four of the last six meetings. We have Board Members with considerable mileage issues. We can have weather issues. We all have very busy schedules and this could help us assure a quorum at all our meetings. Any Board member may choose to not have an Alternate. In order to achieve this, staff suggests the following be added to the bylaws:

   (3.6) (f) Every member of the Board may choose an "Alternate" on an annual basis, subject to Board's approval. If situations change the Board Member may choose another Alternate. This Alternate will have all the rights of the Board member if the Board member is unable to attend a meeting. The Alternate would participate when the permanent Board member can not attend. Notice will be given to the Board Chair or the Cross Connection/Backflow Prevention Program Coordinator in advance.

(2.) There was a discussion of the reasons for having premise isolation just inside the meter as opposed to a point of use isolation. In most cases we are talking about a high hazard situation. It was agreed that when the same type of assembly was used in either location, it generally offers good protection for the water purveyor. It was also agreed that often times the device used at the "point of use" is of the same type but for a smaller diameter pipe. This often makes it cheaper for the customer to install. The reasoning behind using premise isolation includes making it simpler for the water purveyor to supervise. It also lessens the chance of someone tapping into water pipes in an inappropriate or hazardous way. It was also pointed out that water purveyors already have the option to use "point of use" assemblies.

(3.) Chair Monica Anderson asked Michael Perry to make sure our email and phone list is current.

8. Correspondence
   There was no correspondence.

Public Comment
   There was no additional public comment.

Attachments
   ➢ Three page Summary of the Annual Summary Report for 2007
   ➢ Fourteen page report from Ray Johnson on Repairing Backflow Assemblies
69.5% (601 of 865) of the All Water System returned their Annual Summary Reports for 2007

### Backflow Assemblies

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>33,371</td>
</tr>
<tr>
<td>Double Check Assemblies</td>
<td>188,566</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>6,078</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>2,643</td>
</tr>
<tr>
<td><strong>Total Assemblies</strong></td>
<td><strong>230,658</strong></td>
</tr>
</tbody>
</table>

### Assemblies Tested

<table>
<thead>
<tr>
<th>Assembly Types</th>
<th>Tested</th>
<th>Assemblies</th>
<th>% Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>29,098</td>
<td>33,371</td>
<td>87.2%</td>
</tr>
<tr>
<td>Double Check</td>
<td>166,377</td>
<td>188,566</td>
<td>88.2%</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>5,490</td>
<td>6,078</td>
<td>90.3%</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>230</td>
<td>2,643</td>
<td>8.7%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>201,195</strong></td>
<td><strong>230,658</strong></td>
<td><strong>87.2%</strong></td>
</tr>
</tbody>
</table>

### Reported Failures Per Assemblies Tested

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Failures</th>
<th>Tested</th>
<th>% Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>1,487</td>
<td>29,098</td>
<td>5.1%</td>
</tr>
<tr>
<td>Double Check Assemblies</td>
<td>4,249</td>
<td>166,377</td>
<td>2.6%</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>199</td>
<td>5,490</td>
<td>3.6%</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>0</td>
<td>230</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>5,935</strong></td>
<td><strong>201,195</strong></td>
<td><strong>2.9%</strong></td>
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</table>

### New Assemblies Added in 2007

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Count</th>
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<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>2,292</td>
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<tr>
<td>Double Check Assemblies</td>
<td>15,067</td>
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<tr>
<td>Pressure Vacuum Breakers</td>
<td>240</td>
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<td>Atmospheric Vacuum Breakers</td>
<td>363</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>17,962</strong></td>
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</table>
88% (212 of 240) of the Large Water System returned their Annual Summary Reports for 2007

### Backflow Assemblies

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>32,609</td>
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<tr>
<td>Double Check Assemblies</td>
<td>183,083</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>5,815</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>2,242</td>
</tr>
<tr>
<td><strong>Total Assemblies</strong></td>
<td><strong>223,749</strong></td>
</tr>
</tbody>
</table>

### Assemblies Tested

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Tested</th>
<th>Assemblies</th>
<th>% Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>28,459</td>
<td>32,609</td>
<td>87.3%</td>
</tr>
<tr>
<td>Double Check</td>
<td>161,503</td>
<td>183,083</td>
<td>88.2%</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>5,268</td>
<td>5,815</td>
<td>90.6%</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>82</td>
<td>2,242</td>
<td>3.7%</td>
</tr>
<tr>
<td><strong>Total Tested</strong></td>
<td><strong>195,312</strong></td>
<td><strong>223,749</strong></td>
<td><strong>87.3%</strong></td>
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</tbody>
</table>

### Reported Failures Per Assemblies Tested

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Failures</th>
<th>Tested</th>
<th>% Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>1,471</td>
<td>28,459</td>
<td>5.2%</td>
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<tr>
<td>Double Check Assemblies</td>
<td>4,086</td>
<td>161,503</td>
<td>2.5%</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>182</td>
<td>5,268</td>
<td>3.5%</td>
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<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>0</td>
<td>82</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,739</strong></td>
<td><strong>195,312</strong></td>
<td><strong>3.0%</strong></td>
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### New Assemblies Added in 2007

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Count</th>
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<tr>
<td>Reduced Pressure Assemblies</td>
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<tr>
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<td>14,771</td>
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<tr>
<td>Pressure Vacuum Breakers</td>
<td>194</td>
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<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>354</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>17,583</strong></td>
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Annual Summary Reports 2007
Small Systems
[ < 300 Connections ]
11/12/2008
62% (389 of 625) of the Small Water System returned their Annual Summary Reports for 2007

**Backflow Assemblies**

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Total</th>
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<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>762</td>
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<tr>
<td>Double Check Assemblies</td>
<td>5,483</td>
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<tr>
<td>Pressure Vacuum Breakers</td>
<td>263</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>401</td>
</tr>
<tr>
<td><strong>Total Assemblies</strong></td>
<td>6,909</td>
</tr>
</tbody>
</table>

**Assemblies Tested**

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Tested</th>
<th>Assemblies</th>
<th>% Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>639</td>
<td>762</td>
<td>83.9%</td>
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<tr>
<td>Double Check</td>
<td>4,874</td>
<td>5,483</td>
<td>88.9%</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>222</td>
<td>263</td>
<td>84.4%</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>148</td>
<td>401</td>
<td>36.9%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>5,883</td>
<td>6,909</td>
<td>85.1%</td>
</tr>
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</table>

**Reported Failures Per Assemblies Tested**

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Failures</th>
<th>Tested</th>
<th>% Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>16</td>
<td>639</td>
<td>2.5%</td>
</tr>
<tr>
<td>Double Check Assemblies</td>
<td>163</td>
<td>4,874</td>
<td>3.3%</td>
</tr>
<tr>
<td>Pressure Vacuum Breakers</td>
<td>17</td>
<td>222</td>
<td>7.7%</td>
</tr>
<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>0</td>
<td>148</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>196</td>
<td>5,883</td>
<td>3.3%</td>
</tr>
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**New Assemblies Added in 2007**

<table>
<thead>
<tr>
<th>Assembly Type</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Pressure Assemblies</td>
<td>28</td>
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<tr>
<td>Double Check Assemblies</td>
<td>296</td>
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<tr>
<td>Pressure Vacuum Breakers</td>
<td>46</td>
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<tr>
<td>Atmospheric Vacuum Breakers</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>379</td>
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Cross Connection Control Advisory Board
Sub-committee report

Date November 19, 2008

From: Cross Connection Control Advisory Board
Backflow Assembly Repair sub-committee

To: Cross Connection Control Advisory Board Members

Regarding: Adoption of the following subcommittee’s proposal by the Cross Connection Control Advisory Board.

Background:

Since inception the backflow assembly tester certification program has been designed and implemented as a test & repair program. For example the Oregon Administrative Rules (OAR 333-061-0074) require tester training courses to include:

(3) (a) (C) / ... backflow prevention assembly repair techniques;
(3) (a) (D) / Complete disassembly and reassembly of each type of backflow prevention assembly;
(3) (a) (E) / ...troubleshooting for each type of backflow prevention assembly, and diagnosis of two failure and/or abnormal conditions during the hands-on backflow assembly test (exam) of each type of backflow prevention assembly;

The authorization for DHS certified backflow assembly testers to repair was lost in the 1993 legislative session when it was not included in the language of SB-782 establishing the current CC/BPP certification program. In the 2005 legislative session HB 2609 re-established the authorization for licensed landscape contractors to repair assemblies, HB 3093 similarly clarified certification and repair for licensed plumbers and apprentices. DHS certified testers need similar clarity in their authorization to repair.

The responsibility of providing safe drinking water dictates that in requiring the annual testing of assemblies, water purveyors should provide assurance to their customers that the assembly will be tested and if needed repaired at that time without additional delay or expense. Given the health risks associated with cross connections creating a system where testers cannot repair assemblies undermines the intent of the OAR’s and puts safe drinking water at risk.
Recommendation:

The Backflow Assembly Repair Sub-committee proposes that the Cross Connection Control Advisory Board Members vote to approve the following recommendation and present this recommendation to the Oregon Department of Human Services:

Revise the Oregon Administrative Rules 918-695-xxxx to include a Limited Specialty Backflow Prevention Assembly Repair License.

1) Authorization and Scope. This rule creates a Limited Specialty License to repair backflow prevention assemblies and devices.

2) Persons eligible for licensing. The requirements for licensing are:
   a) Possess a current and valid Backflow Assembly Tester certification from the Department of Human Services.
   b) Satisfactory completion of a division-approved training program for Limited Specialty Backflow Prevention Assembly Repair that includes the following:
      A) A minimum of 16 hours of classroom training that includes:
         i) Materials, tools and equipment;
         ii) Troubleshooting techniques;
         iii) Administrative rules;
         iv) Safety;
         v) Accessing and understanding manufacturer’s schematics and specifications;
         vi) Hands-on practice using backflow prevention assemblies under working water pressure; and
         vii) Locating industry resources.
   3) Procedure for licensing. An applicant for licensing shall:
      a) Complete and sign the division application;
      b) Provide verification of the required training;
      c) Pay the applicable fee.
   4) Scope of plumbing authorized. The holder of a Limited Specialty Backflow Prevention Assembly Repair License may:
      a) Access the internal components of a backflow prevention assembly or device to facilitate flushing and cleaning of the check valves, springs, seats, guides and rubber components; and
      b) Access the internal components of a backflow prevention assembly or device to facilitate the replacement of any and all parts to return the backflow prevention assembly to manufacturer recommended specifications.
      c) May not install or replace a backflow prevention assembly or device.
   5) Nothing in these rules shall prohibit a licensed journeyman plumber from installing, replacing or repairing backflow prevention assemblies or devices.

Please see attached supporting documentation:
A History Of Cross Connection Control In Oregon

Cross connection control, or the protection of public water supplies through the prevention of customer generated contamination, has become an integral part of Oregon’s multi-barrier approach to public health protection.

Oregon was not slow to realize the water suppliers’ responsibility for identifying and mitigating potential sources of contamination within their customer’s plumbing systems. In fact it was the Portland Water Bureau’s experiences with customer generated contaminations in the 1960’s and the mandates codified in the Federal Safe Drinking Water act of 1974 that set the wheels in motion for Oregon to become a national leader in protecting public health through cross connection control.

Cross Connection Program History

1960’s
- Portland Water Bureau (PWB) experiences system contaminations after main breaks in the downtown distribution system.
- PWB staff attend USC course and begin local program isolating known hazards
- Water purveyors perform almost all testing and repair
- Arne Linne begins Interstate Cross Connection Control, Inc and starts training testers including repair (& including a small number of interested plumbers)

1970’s
- Safe Drinking Water Act passes
- Water suppliers begin the transition to “commercial” testing & repair services to meet the need of a growing inventory of assemblies. Then as now the vast majority of assemblies are tested and repaired by non-plumbers

1980’s
- The Oregon Legislature passes the Oregon Drinking Water Quality Act mandating cross connection programs for all public water systems
- Subsequent to Arne Linne’s retirement Clackamas Community College takes over tester training and becomes the Oregon Health Division’s provider of approved tester certification courses
- Backflow assemblies proliferate reflecting the increasing complexity of plumbing systems and cross connection hazards
- To meet the growing need for program administrators Clackamas CC develops the Cross Connection Inspector course, with the cooperation of Bill Preble, City of Portland cross connection program director and Al Smyth of the Oregon Health Division. The inspector course is attended by a representative of USC FCCCHAR. The Foundation uses the Oregon course as a model for their cross connection specialist course.
- The number and specialty of backflow testers proliferate reflecting the need to include testing and repair services as part of the work performed by: Fire Sprinkler Contractors, Irrigation Contractors, Mechanical System Contractors & Mill Wrights
- Oregon is one of the first states to organize cross connection inspectors into a statewide affiliation. The Oregon Cross Connection Inspectors Regional Subcommittee is organized through the work of Hank Sims (City of Salem), Chuck Davis (Springfield Utility Board), Charlie Harrison (City of Beaverton), and Steve West (Eugene Water & Electric Board).

- The OCCIRS sponsors backflow assembly repair workshops at various locations around the state. Repair experts from BAVCO provide training backflow assembly testers who desire to become proficient “repair technicians.” These day long repair training sessions are very popular and widely attended.

- The Oregon Health Division creates a new certification as a rule change: Cross Connection Inspector. New rules require that public water systems with 300 or more service connections have a certified inspector as the CC program DRC.

- Plumbing inspectors statewide attend and become certified as Cross Connection Inspectors. The City of Portland requires all plumbing inspectors to attend a Cross Connection Inspector certification course.

- Many state and county registered sanitarians (environmental specialists) attend 4-day training courses and become certified as Cross Connection Inspectors. Dan Lundy and Steve West provide Cross Connection Inspector training for 30 register sanitarians at their annual training seminar.

- Landscape Contractors Board successfully sponsor legislation authorizing licensed landscape contractors to install assemblies

- Clackamas Community College begins providing tester certification training for Local 290 Plumbers

1990's

- Oregon Plumbing Specialty Code incorporates requirements for assembly testing, recognizes “double check valve” and “reduced pressure” type backflow preventers for the first time

- John Huffman, Health Division Cross Connection Control program manager and Dan Lundy of Clackamas CC train instructors from Local 290 Plumbers and Steamfitters Union so that the Union can incorporate cross connection training into the apprenticeship training program. Clackamas CC provides a complete set of training resources to the instructors for use in their classes.

- Local 290 instructors become Oregon Health Division approved Tester Course Instructors.

- Measure 5 cuts result in the Oregon Health Division's suspension of the tester and inspector certification program

- Water suppliers partner with the Pacific Norwest Section American Water Works Association to carry the certification program until legislation can be introduced to re-authorize the certification program as a fee program

- The Oregon Cross Connection Inspectors Regional Subcommittee (OCCIRS) with the support of Local 290 successfully sponsors SB-782. Re-instating the certification programs as a fee program Local 290 insists the legislation not include any reference to repair as part of tester certification.
2000s
- Local 290 successfully holds up the Department of Human Resources budget forcing a confrontation with the Health Division/water purveyors
- Ad Hoc committee is formed to address “perceived” issues
- Local 290 & the PHCCA unsuccessfully sponsor SB-343 (2003 session) attempting to move the certification programs to the Building Codes Agency
- Ad Hoc committee completes rules re-write
- DHS holds rules hearing
- Updated Rules adopted November 2004
- Local 290 & the PHCCA Unsuccessfully sponsor SB-381 (2005 session) in a re-bid to move CC certification programs to building codes, successfully passes HB 3093 exempting licensed plumbers & apprentices from tester certification requirement.
- Local 290 & the PHCCA prepare legislation for the 2009 session to move CC certification programs to building codes.
MEMO

DATE: August 25, 2008

TO: Cross Connection Advisory Board Members and
    State of Oregon, Department of Human Services, Drinking Water Program

FROM: Oregon Cross Connection Specialists Regional Subcommittee (OCCSRS)
      of the Pacific North West Section of American Water Works Association

REGARDING: Backflow Assembly Testers and the repair issue

The officers and members of OCCSRS are in full support of finding a solution for the ongoing issues related to Backflow Assembly Tester’s and their ability to repair backflow prevention assemblies and devices while in the course of testing. The proposal recently brought forward by The Oregon Chapter of the American Backflow Prevention Association (OR-ABPA) to request a specialty license for assembly and device repair under Oregon’s Building Codes Division is the best solution for all sides of this issue. This proposal does not reduce revenues for the existing Backflow Tester certification program as it is a voluntary license for the Backflow Tester, it continues to uphold that plumbers install, repair, replace, remove assemblies and devices, and it is a great benefit to the consumers of Oregon who have suffered under the interpretation of the current rules.

OR-ABPA is conducting a grass roots effort to gain support from all the stakeholders involved in this issue and present their proposal for a limited specialty license to the Plumbing Board at their October 2008 meeting. OR-ABPA’s proposal is to limit the allowable repairs for testers who elect to obtain this specialty license to only in-line flushing, cleaning and installing repair kits, and to pay a reasonable fee to Building Codes Division for oversight and administrative costs for this specialty license.

OCCSRS is asking the Cross Connection Advisory Board and the Department of Human Services, Drinking Water Program’s leadership for a written show of support for OR-ABPA’s proposal, as they take it forward to the decision makers at the Building Codes Division.

Sincerely,
Kate Mattimore (BMI, Inc.)
Chairperson OCCSRS
REPAIR ISSUE

Plumbers
Resolve this long standing source of irritation so both groups can focus on protecting health as provided by the Plumbing Code & Health Division. New issues that deserve more attention are conservation, reclaimed and graywater systems that will be demanding more plumbers work as they add a 3rd set of pipes into buildings.

Most plumbers are not interested in testing or repairing assemblies. They prefer larger jobs and find that if repairs are necessary, replacing the entire assembly is more cost and time effective for them.

Not all plumbers are testers because this subject is not part of the BOLI Apprenticeship training standards. They can elect to take the training class, but it is not required to complete their apprenticeship. After an assembly is repaired or replaced, a certified tester must be scheduled to retest and pass the assembly.

This proposed Specialty License clearly provides that repair can only be done in-line with no replacement or removal of the assembly allowed, respecting their trade.

Nothing changes for plumbers regarding their obvious training and ability to do repairs if they so wish.

Consumers
Will benefit by having one person test, and if needed repair and then retest the assembly. Sometimes a tester will arrive to test an assembly and the assembly fails the initial test. They advise the customer to call a plumber. A plumber is scheduled, dispatched and repairs or replaces the assembly. The plumber may not be a tester (not all plumbers are testers as that is not part of the required training they receive under BOLI Apprenticeship standards). The original tester is called again and scheduled to retest and hopefully pass the assembly. Sometimes this can become a very back and forth ordeal for the consumer involving delays, arranging access and increasing costs.

The concept of assemblies is generally confusing to most consumers and having a trained tester with required update training every two years to assist in the explanation and repair, if needed, would go a long way in this industry.

The expense would be less for the consumer who could expect the job to be completed with one person on one visit at a lower rate than most plumbers can charge.

Testers
The proposed Specialty License will be optional so those that do not want the added ability to repair do not need to obtain this additional license.

Assemblies are becoming increasingly modular adding to the ease of in-line repairs.

Support on this issue from ABPA, PNWS-AWWA, OCCSRS and many others.

Testers were previously allowed to do repairs.
Testers have been running their businesses in this industry for over 25 years and adhere to certification requirements with DHS, licensing as contractors, they pay insurance and bonds, support their families and add to the economy.

**BCD**
Specialty Licensing fee could be set by BCD and would pay for the administrative support.

BCD would gain oversight and enforcement of testers that do repairs under this Specialty License.

Eliminate the source of controversy for the Department and the industry and allow them to work with the other state agency and on other important issues.

**DHS**
Public Health will be protected by the quick repair and restoration of the backflow assembly to service. In some of the rural areas of Oregon it is particularly difficult to contract with a plumber for a simple repair. Assemblies can remain disabled for extended lengths of time, leaving the public water system vulnerable to health risks.

There would be no loss in DHS revenues that go to support the Backflow/Cross Connection Program because this creates a separate, voluntary specialty license.

Eliminate a source of controversy for the Department and allow them to work openly with the other state agency.

A Specialty Plumbing License under DCBS would not require any changes to the existing Drinking Water Program’s Oregon Revised Statutes or Oregon Administrative Rules.

Cross Connection Specialists activities that are focused on protecting their public distribution systems would be enhanced by allowing a tester with a Specialty license to effect a quick flushing or repair to return an assembly to a working condition.

**State Uniformity Issue**
LCB with the proper phase of licensing can install, repair, or replace assemblies with the additional qualification or training of being a DHS-certified Backflow Assembly Tester.

Employees can repair assemblies on their employer’s property.

Homeowners without any training or certification can repair or replace their own assemblies.

Anyone can repair or replace assemblies that are protecting stand-alone fire systems or irrigation systems.

Eliminate the source of controversy for the various State Department’s and allow them to work with the other state agency.
ORS 693.103 Limited specialty plumbers; rules; scope of license; water heater specialty.
(1) The State Plumbing Board, by rule, may license limited specialty plumbers who:
   (a) Demonstrate to the satisfaction of the board competency in the laws, rules, ordinances and
       practices relating to a plumbing specialty; and
   (b) Pay the journeyman plumber application fee established by the board under ORS 693.135.
(2) A limited specialty plumber license authorizes a person to perform work in the specific branch
    of the plumbing trade for which the license is issued.
(3)(a) The board shall establish a limited specialty plumber license for persons licensed under ORS
    479.630 (12) to install and replace residential water heaters in existing plumbing designed for
    that purpose if the installation or replacement does not require an alteration of the existing
    plumbing.
    (b) Qualification for a limited specialty plumber license under this subsection shall include
        testing and a requirement for training.
    (c) This subsection does not otherwise affect the ability of persons licensed under subsection (1)
        of this section to make connections to water systems.

[1985 c.590 §4; 1993 c.477 §1; 1995 c.715 §6; 2005 c.758 §49; 2007 c.271 §15]

ORS 693.135 Fees; rules. The State Plumbing Board shall adopt rules establishing fees to be
charged by and paid to the board. The following shall be the maximum fees established under this
section:
(1) For an application for a journeyman plumber license, $100.
(2) For a journeyman plumber license renewal, $50 per year.
(3) For an application for a plumbing contractor license, $150.
(4) For a plumbing contractor license renewal, $150 per year.
(5) For an application for a supervising plumber license, $50.
(6) For a supervising plumber license renewal, $50 per year.
(7) For continuing education for renewing a license, $25 per year. [1981 c.438 §24; 1991 c.555 §3;
    1993 c.397 §3; 2005 c.758 §54; 2007 c.271 §17]

ORS Chapter 479 — Protection of Buildings From Fire; Electrical Safety Law
479.630 Requirements for obtaining licenses; rules. If the person pays the applicable application
fee required under ORS 479.640 and complies with ORS 479.510 to 479.945 and the rules adopted
under ORS 455.117 and 479.510 to 479.945, the Department of Consumer and Business Services
shall issue:
(12) A limited maintenance specialty contractor license to a person who qualifies under this
subsection. A person licensed under this subsection is authorized to engage in the electrical work
related to the repair, service, maintenance, installation or replacement of existing, built-in or
permanently connected appliances, fluorescent ballasts or similar equipment and to employ
individuals to engage in that work. This subsection does not authorize the installation of appliances,
ballasts or other equipment if there is no existing installation of similar equipment. A person
qualifies under this subsection if the person:
    (a) Submits proof satisfactory to the board that the person has had sufficient experience in the
type of work permitted under the license issued under this subsection; and
    (b) Maintains with the board a current list of all individuals employed by the person to engage in
work permitted under this subsection.
OAR 918-695-0100
Procedures for Submitting Training Proposals for Limited Specialty Plumbers
(1) The employer shall submit to the board a detailed description of the training program and the means of its administration for the branch of the plumbing trade which the employer will conduct under OAR 918-695-0100.

(2) Program description shall include:

(a) The term of on-the-job training, including the minimum time required to learn, and the maximum time required by the employer to provide training, including any procedures for evaluating and crediting prior plumbing experience of the trainee;

(b) A breakdown of the job experience into work processes, and the number of hours of on-the-job training to be devoted to each work process;

(c) Provisions for related instructional training, including:

(A) The total hours of related training in addition to the on-the-job training;

(B) A breakdown of the related training into segments of instruction and hours to be devoted to each segment;

(C) Where and during what hours the related training shall take place; and

(D) The name of the related training instructor, if any, along with the instructor's qualifications in subject matter by experience and training; or

(E) The name of the correspondence course, together with any supplemental material to be used for related training; and

(d) The type and degree of on-the-job supervision of the trainee, including provision for assigning trainees to work under the supervision of a licensed journeyman or limited specialty plumber to the full extent necessary to insure proper training.

(3) Procedures to provide for periodic evaluation and reporting of the trainee's program effectiveness, and the maintenance of records of these evaluations shall be made available to the division and the board upon request.

(4) Methods of evaluating the trainee shall be established and the evaluations reported at least annually to the division and the board. Evaluations include rating of the trainee's on-the-job progress by the trainee's supervisor and testing of the trainee's related training progress by the trainee's instructor or through a correspondence school.

Stat. Auth.: ORS 693.103
Stat. Implemented: ORS 693.103
Hist.: BCA 18-1991, f. & cert. ef. 6-12-91; BCD 6-1998, f. 3-2-98, cert. ef. 4-1-98, Renumbered from 918-690-0052
For use in revising the Oregon Administrative Rules 918-695-xxxx to include a Limited Specialty Backflow Prevention Assembly Repair License.

1) Authorization and Scope. This rule creates a Limited Specialty License to repair backflow prevention assemblies and devices.

2) Persons eligible for licensing. The requirements for licensing are:
   a) Possess a current and valid Backflow Assembly Tester certification from the Department of Human Services.
   b) Satisfactory completion of a division-approved training program for Limited Specialty Backflow Prevention Assembly Repair that includes the following:
      A) A minimum of 16 hours of classroom training that includes:
         i) Materials, tools and equipment;
         ii) Troubleshooting techniques;
         iii) Administrative rules;
         iv) Safety;
         v) Accessing and understanding manufacturer’s schematics and specifications;
         vi) Hands-on practice using backflow prevention assemblies under working water pressure; and
         vii) Locating industry resources.

3) Procedure for licensing. An applicant for licensing shall:
   a) Complete and sign the division application;
   b) Provide verification of the required training;
   c) Pay the applicable fee.

4) Scope of plumbing authorized. The holder of a Limited Specialty Backflow Prevention Assembly Repair License may:
   a) Access the internal components of a backflow prevention assembly or device to facilitate flushing and cleaning of the check valves, springs, seats, guides and rubber components; and
   b) Access the internal components of a backflow prevention assembly or device to facilitate the replacement of any and all parts to return the backflow prevention assembly to manufacturer recommended specifications.
   c) May not install or replace a backflow prevention assembly or device.

5) Nothing in these rules shall prohibit a licensed journeyman plumber from installing, replacing or repairing backflow prevention assemblies or devices.
TO: Oregon DHS Drinking Water Advisory Committee
FROM: Stephen West
DATE: October 15, 2008
SUBJECT: Cross Connection / Backflow Prevention Program (CC/BPP) & 2009 Legislation

At our October 8, 2008 meeting I asked committee members to consider the issue of backflow assembly repair, which may become a 2009 legislative initiative. As past chair of the Drinking Water Program’s Cross Connection Advisory Board (CCAB) I know this issue continues to limit the effectiveness of public water system cross connection programs across the state, creating a hole in Oregon’s multi-barrier approach to drinking water safety.

The Oregon Cross Connection Specialists Regional Subcommittee (OCCSRS) a standing sub-committee of the PNWS-AWWA, and the Oregon Chapter of the American Backflow Prevention Association (ABPA) have teamed up in an attempt to restore the authorization of backflow assembly testers certified through the Drinking Water Program to repair the backflow assemblies they test. This authorization was lost in the 1993 legislative session when it was not included in the language of SB-782 establishing the current CC/BPP certification program.

Since inception the backflow assembly tester certification program has been designed and implemented as a test & repair program. For example the Oregon Administrative Rules (OAR 333-061-0074) require tester training courses to include:

(3) (a) (C) / … backflow prevention assembly repair techniques;
(3) (a) (D) / Complete disassembly and reassembly of each type of backflow prevention assembly;
(3) (a) (E) / …troubleshooting for each type of backflow prevention assembly, and diagnosis of two failure and/or abnormal conditions during the hands-on backflow assembly test (exam) of each type of backflow prevention assembly;

Common sense dictates that in requiring the annual testing of assemblies, water purveyors should provide assurance to their customers that the assembly will be tested and if needed repaired at that time without additional delay or expense. Given the health risks associated with cross connections creating a system where testers cannot repair assemblies undermines the intent of the OAR’s and puts safe drinking water at risk.

In the 2005 legislative session HB 2609 re-established the authorization for licensed landscape contractors to repair assemblies, HB 3093 similarly clarified certification and repair for licensed plumbers and apprentices. DHS certified testers need similar clarity in their authorization to repair.

The attached material provides additional background and an overview of current activities.
“Straw Man” Backflow Assembly Repair Training Proposal

The following proposal provides a high level outline of the elements I would recommend including in a repair training and certification process as part of a repair credential offered to Oregon State certified backflow assembly testers in good standing. My goal is to provide a starting point for the CCAB’s consideration and recommendation on this matter. In that I welcome your comments and suggestions.

Current Standards, Skills & Knowledge

As required in the DHS Administrative Rules, the 40-hour tester training should already include the following (this needs to be verified with the various training agencies):

OAR 333-0610074 (3) (b) (C) “Backflow prevention assembly approval requirements, specifications and installation requirement for approved backflow prevention assemblies, and backflow prevention assembly repair techniques”

OAR 333-0610074 (3) (b) (D) “Complete disassembly and reassembly of each type of backflow prevention assembly”

OAR 333-0610074 (3) (b) (E) “Hands-on demonstration of the correct test procedures, troubleshooting for each type of backflow prevention assembly, and diagnosis of two failure and/or abnormal conditions during the hands-on backflow assembly test of each type of backflow prevention assembly”

Additionally Oregon’s current training providers are providing at least minimal coverage of tester safety including: confined space entry, electrical hazards, special tools, springs/disassembly, overhead installations, traffic hazards, thrust restraint, hazardous materials, & workplace safety/personal protection equipment (again this needs to be verified with the various training agencies).

Additional Training Recommended

In addition to the required training and safety training included as part of the backflow assembly tester certification training I would recommend that a dedicated repair training include coverage of:

1. The Oregon Plumbing Specialty Code  Specifically Oregon Administrative Rules and code provisions governing what work can & can’t be performed under a limited license or other repair authorization. While the OPSC is covered in the tester certification training it is generally limited to Chapter 6 and the cross connection control requirements included in the code.
2. Contracting Law and Liability Although most testers now maintain a CCB registration or LCB license we would want to insure that along with knowledge of the limits of the authorized work testers obtain knowledge of the limits and liability requirements associated with their contracting “license”.

3. Provision of and Introduction to the BAVCO Repair Manual Currently EWEB provides each student with a copy of the BAVCO manual. This manual details repair instructions for virtually every assembly ever approved by USC. It is the best guide available for identifying the need for special tools and assembly repair safety concerns. Additionally it provides information on the availability of parts.

4. Hands-On Training Clearly the biggest concern in training and authorizing repair is proficiency, a combination of knowledge and experience. Actual diagnosis, disassembly and reassembly of assemblies should be a core part of the training and should focus on breadth lending testers wide experience aimed at ensuring safety and building their confidence.

Logistics

1. Course Structure Given that much of this is covered, though not in depth, in the certification training it is reasonable to expect that we would not be starting “from scratch”. I would propose that once we are assured that the existing training include the items mentioned above we could realistically cover this material in 16 hours. Rather than focus on an intensive “up-front” training, I would recommend a focus that provides assurance that the tester knows what they need to know, and that they demonstrate their ability to put that knowledge to work. This would be accompanied with a requirement for continuing education that is dovetailed to the certification cycle and re-certification training. Given the changing nature of the industry and equipment it is important that testers stay abreast of new products tools and techniques.

2. Course Metrics I recommend including a written test that focuses on troubleshooting, repair, and safety. Additionally I recommend a “repair circuit” hands-on requirement but not a hands-on “test”. The repair circuit would require the tester to diagnose, disassemble, repair, reassemble, and obtain a passing test result on a series of assemblies. Proctor/Instructional would supervise and provide training as needed and document the students experience with a variety of make, model & size assemblies. The repair circuit provides a mechanism that can be used in a number of settings and formats. We have done this at re-certification trainings and in conference settings, such that with the support of the suppliers and manufacturers we could work towards creating similar CEU accredited trainings as part of the ABPA Seminar and AWWA Short Schools.

3. Requirements I recommend the written exam be required as part of the re-certification process (i.e. currently every two years) this would accommodate the inclusion of new products, test procedures (e.g. USC 10th edition), test equipment, and safety updates. Linking/offering gauge calibration to these sessions would add value. Additionally I recommend a minimum of 4 hours (.4 CEU’s) hands-on training like the recommended repair circuit every two years.