

# USC

UNIVERSITY  
OF SOUTHERN  
CALIFORNIA

Foundation for  
Cross-Connection  
Control and  
Hydraulic Research

## What is an Invalid Approval?

The Foundation staff frequently receive inquiries as to the status of a backflow preventer's Approval after a modification or variance in installation orientation has occurred. In many cases, the Foundation staff member's response will be something like, "that modification would invalidate the Foundation's Approval of the assembly." There are a number of reasons the Foundation's Approval of a particular backflow prevention assembly would be invalidated. For example, if the assembly is installed in an orientation other than the orientation under which the assembly was evaluated, the Approval would be invalidated. The shutoff valves could be moved or bells could be placed in between the shutoff valves and the assembly. Rotating the assembly on its axis or rotating the shutoff valves on their axes may invalidate the Approval. Even though the Foundation's Approval may be invalidated, it is important for the administrative authority and those in the field to understand a few things about the Foundation's Approval and the invalidation of an Approval.

Backflow prevention assemblies are submitted to the Foundation for evaluation under certain parameters. For example, the assembly may be evaluated in either the horizontal orientation or both the horizontal and vertical orientation. When an assembly is submitted for

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## Manual Review Committee

On the 28th of January, 1997, the Manual Review Committee held a General Meeting to discuss revisions for the upcoming Tenth Edition of the *Manual for Cross-Connection Control*. This meeting was the first in a number of meetings to discuss issues relating to the Manual. The first, as stated, was a general meeting, one in which the Manual Review Committee (MRC) met to discuss plans for the overall review of the Manual. A second general meeting was held on the 18th of March. During this meeting recommendations by various sub-committees regarding Sections three, five, six and seven were discussed.

The next meeting, to be held May 20, 1997, will be an open meeting. The Foundation encourages those interested parties wishing to make a presentation to the MRC regarding any subject relative to the Manual to attend. A letter detailing the procedure for making a presentation to the committee is detailed on page seven of this issue of *Cross Talk*. Future open sessions with specific topic areas will be provided, as well.

During the January meeting, the MRC set forth the review process that it will abide by as they make their decisions. This review process includes four critical elements, the first of which is the MRC itself. The MRC is composed of representatives of various administrative

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**I n s i d e C r o s s T a l k**

Field Testing Video • Tenth Edition of the Manual • Special Notices  
Conferences • Invalid Approvals

## Foundation Membership

The Foundation's Membership Program provides many benefits to the Members of the Foundation. These include: twenty percent discounts on Foundation Training courses for any employee of the Member company/organization, the *List of Approved Backflow Prevention Assemblies*, printed quarterly, and access to the up-to-the-minute version of the List for those Members with Internet access.

Members may also call the Foundation at any time with technical questions they may have. The Foundation's Engineering Staff is available to assist Members with the various aspects of field testing backflow preventers, installing backflow preventers, administering their cross-connection control program.

Black & Veatch  
Cross-Connection Control  
Committee  
El Paso Drain Service  
Glencairn Plumbing  
Huntsman Corporation  
J. Paul Getty Trust  
Joseph Heil Co.  
Kim Kinna  
Lincoln Plumbers &  
Steamfitters, Local 88  
Lockheed Martin  
Idaho Technologies  
Los Alamos National  
Laboratory Mathisen  
Plumbing  
Neighborhood Plumbing  
Pete Fer & Son Plumb. &  
Supply Co.  
RASco, Inc.  
Rivergrove Water District  
Roto-Rooter Plumbing  
Service  
City of Sparks  
Valves & Controls Pty. Ltd.

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# Invalid Approvals

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horizontal orientation, this is the only orientation under which it is evaluated. There is no way for the Foundation to ascertain the specific operational characteristics of an assembly in a specific orientation unless the assembly is tested in that orientation. Therefore, an assembly tested in the horizontal orientation is Approved for horizontal orientation only. It could be that the assembly would work if tested in the vertical orientation, but the Foundation can not make statements about the operation of the assembly when there is no data to back up the statement. Certain double check valve assemblies have passed the evaluation in both the horizontal and vertical orientations. Thus, they are Approved for vertical or horizontal installation. However, there are others which have been tested in the horizontal orientation only. Even though they may or may not work in the vertical orientation, the Foundation would have to invalidate the Approval of such an assembly installed in the vertical orientation, because there is no data to confirm acceptable operation in the vertical orientation.

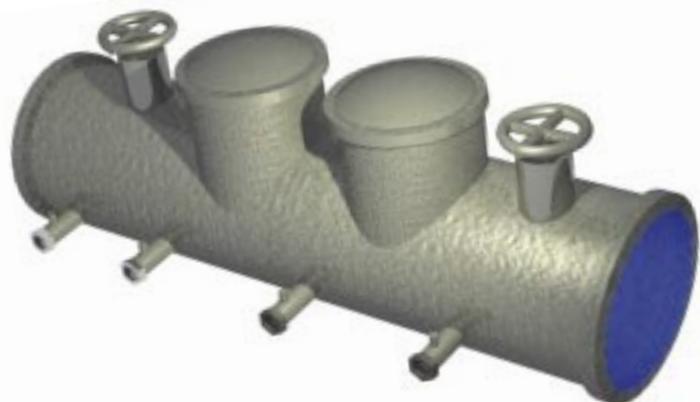
A less critical case occurs when a shutoff valve on an Approved assembly is rotated. Since the assembly was not evaluated and Approved in that particular configuration, the Approval would be invalidated. In this type of situation, it is important to know that the shutoff valves are used for testing and maintenance purposes. They do not contribute to the assembly's ability to prevent backflow. Therefore, if a shutoff valve is rotated on it's axis, the assemblies ability to prevent backflow

should not be affected. However, since this is not the configuration under which the assembly was evaluated, the Foundation's Approval would be invalidated. The administrative authority may, in such a case, choose to allow a variance to the requirements of the Foundation Approval because of the fact that nothing has been done to alter the ability of the assembly to prevent backflow. The Foundation's position, however, is that the Approval is invalidated when there is any change in configuration, orientation, material, etc. The Foundation's Approval in essence, states that a particular assembly in a particular configuration and orientation met specific criteria. It is not good engineering practice for the Foundation to grant Approval in other configurations or orientations without first evaluating it under those specific conditions.

In summary, any change made in the assembly, (including configuration and orientation) since the time it was evaluated and Approved by the Foundation, would invalidate the Foundation's Approval. These changes may or may not affect the assembly's ability to prevent backflow. The local administrative authority may grant a variance for assemblies modified in such a way that would not affect the assemblies' ability to prevent backflow.



**The Foundation can not make statements about the operation of the assembly when there is no data to back up the statement**



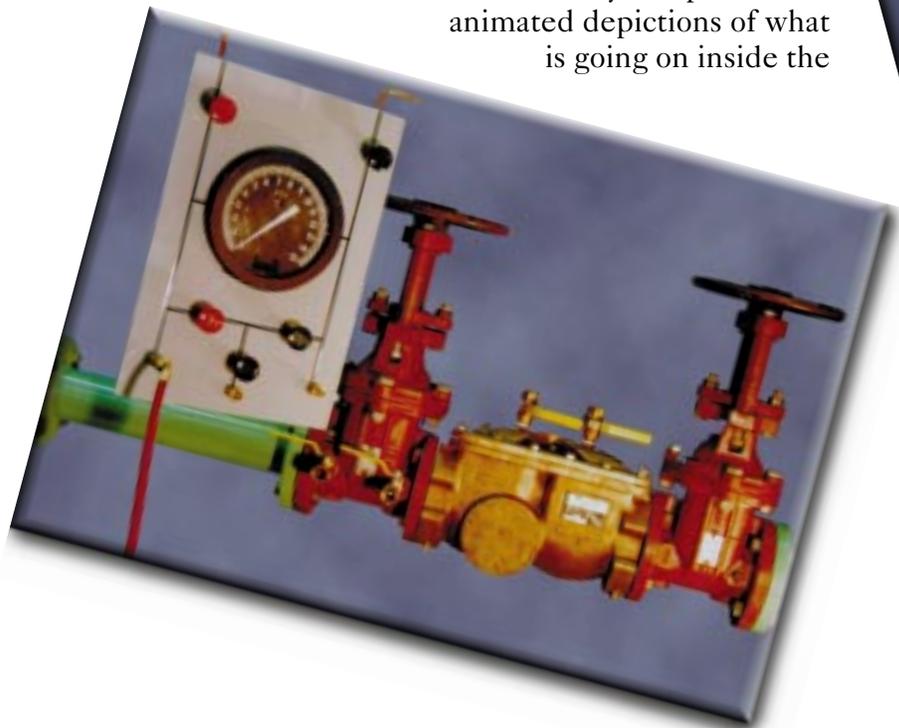
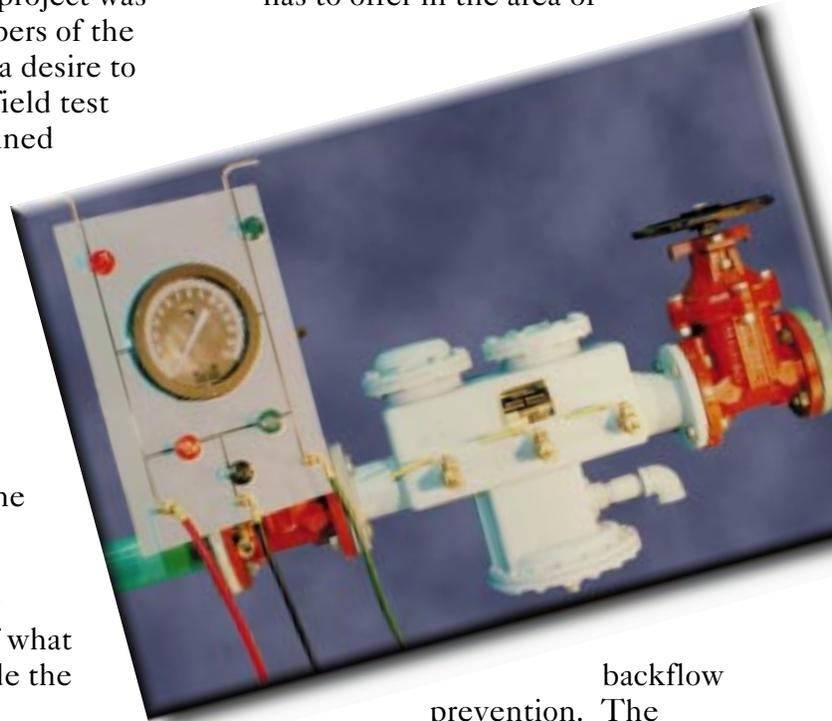
## Training Video in Post Production

**With all of the animation elements and the live action segments complete, the video has moved into post-production.**

In the last issue of *Cross Talk*, the Foundation's video project was discussed. This video project was begun when the Members of the Foundation expressed a desire to have a video in which field test procedures were explained in detail. With all of the animation elements and the live action segments complete, the video has moved into post-production.

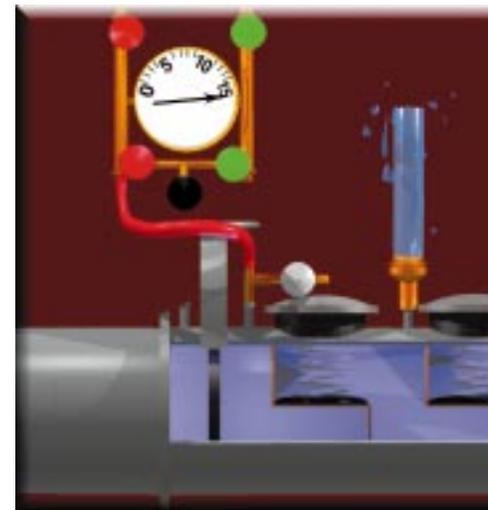
The most innovative aspect of the video is the fact that the live action demonstrations will be enhanced by computer animated depictions of what is going on inside the

The video is the newest of many training tools that the Foundation has to offer in the area of



backflow prevention. The Foundation is aiming for a low price that will allow individuals to easily purchase the video and still afford the Foundation T-shirt your spouse forgot to get you for Christmas. Look for the video to be available for order by the end of April, in time for its premiere at the American Backflow Prevention Association Conference in Asheville, North Carolina.

backflow preventer under different circumstances. The purpose is to educate viewers to a point where they can observe external functions of the backflow preventer and properly assess what is happening internally.



## Special Notices

Striving to keep the Members as up-to-date as possible, the Foundation issues Special Notices regarding Approved backflow prevention assemblies. Members are sent a copy of the Notices and they are also posted on the Foundation's Web site: [http://www.usc.edu/dept/fccchr/Notice 97-001](http://www.usc.edu/dept/fccchr/Notice%2097-001) is the first notice of 1997 and is summarized below.

### Notice 97-001

The Wilkins 8" and 10" 975 reduced pressure principle assemblies have had the disc retaining cups in the relief valve stems modified to improve performance. On 8 November 1991 and 24 May 1993 these assemblies were Approved. On 1 December 1994, due to the failure of the assemblies to meet one of the laboratory requirements while under re-evaluation, it was taken off the List. Notice 95-001 was issued in April 1995 to tell of a modification that allowed it to pass once again. Since that time, the manufacturer has made additional modifications to improve the performance so that it is able to

pass the lab evaluation test. Contact Wilkins for more information, or refer to the complete notice on the Foundation's Web site. For a hard copy, please contact the Foundation Office.

## Conferences

The Foundation is frequently represented at conferences relevant to the backflow prevention industry. Be sure to look for the Foundation's booth at the American Backflow Prevention Association (ABPA) Conference in Asheville, NC, April 27-30. A few weeks later, the Foundation will be in booth 215 at the 1997 National Fire Protection Association (NFPA) Annual Meeting and Fire Safety Exhibit at the Los Angeles Convention Center, May 19-21. The Foundation has a few passes to the exhibit hall for the NFPA Fire Safety Exhibit, if you would like to receive a complimentary pass, please contact the Foundation Office.

We will have information regarding Foundation services and courses at each conference, as well as staff on hand to answer questions.

We will have a sample of the new video, *Field Testing Backflow Preventers*, information regarding Foundation services and courses at each conference, as well as staff on hand to answer questions.

**At the Foundation's booth, we will have a sample of the new video, information regarding Foundation services and courses at each conference, as well as staff on hand to answer any questions.**



# The Manual Review Committee

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authorities (i.e. water and health agencies) in the Southern California area, as well as those from the private sector (i.e. backflow assembly testers).

The Second Element is the Regional/National Organizations and Agencies. To successfully publish this Manual in a way that will be effective for everyone in every sector of this industry, the MRC relies on this element to a great degree.

The third element is the manufacturers of backflow prevention assemblies and related equipment. In past editions of the Manual, the MRC would submit Section 10 (assembly specifications) to the manufacturers for technical review. After resolving conflicts, the Manual would then be published. A non-voting representative of the Backflow Prevention Manufacturers Association has been added to the Manual Review Committee as a liaison to the Manufacturers.

The final element in the review process involves keeping the general backflow industry informed of the work of the MRC. To do this effectively, the Foundation is utilizing its web site to post any and all information regarding each MRC meeting. A comment page is included on the home page which gives internet users the ability to send comments/suggestions more easily.

So what is going to be changing, you ask? Listed here are the proposed changes that the MRC will be looking into, and any further remarks concerning these changes are welcome.

Section 2: Update with current code/regulation references

Section 3 & 6: MRC sub-committees were established to revise and update each portion of this section. Section 6 (i.e., non-compliance issues) will be incorporated into the corresponding portion of Section 3.

Section 4: Definitions will be updated and expanded, with more illustrations.

Section 5 & 7: These two sections will be combined into one new section. This new section will separate Facilities (typically requiring backflow protection) from Equipment.

Section 8: Improve installation guidelines (i.e., vertical installations, enclosures, floor drains) and add more detailing for internal protection. Also, sample letters and ordinances will be updated.

Section 9: Some of the field test procedure steps need to be clarified, and some of the implied steps need to be added. Other items to be considered include a DC vertical installations and trouble shooting summary, the RP 3 psi buffer, and the flow test for assemblies on fire sprinkler systems.

Section 10: All portions of this section will be under review. The intent is to change to a more performance oriented standard rather than a prescriptive specification. Field test gage standard will be a new subsection.

Section 11: Update listing of backflow incidents.

**The Foundation is utilizing its web site to post any and all information regarding each MRC meeting**

**All Suggestions and Recommendations for the Tenth Edition of the Manual should be sent to the Manual Review Committee care of the Foundation Office**

27 March 1997

To All Interested Parties:

The Foundation for Cross-Connection Control and Hydraulic Research's *Manual of Cross-Connection Control* is currently under revision. The Manual Review Committee (MRC) began meeting in January 1997 to work on the Tenth Edition

Individual manufacturers of backflow prevention assemblies and related equipment have commented that they would like more input during the development process, not just the final draft review. For all past editions of the *Manual*, the MRC would develop the working draft document, followed by the submittal of Section 10 (assembly specifications) to the manufacturers for technical review. After resolving all negative comments from the manufacturers, the *Manual* would then be published.

The MRC voted at the 28 January 1997 meeting to establish a meeting schedule which would allow interested parties to make a presentation to the MRC regarding any subject relative to the *Manual*. The first of these open meetings is now scheduled for Tuesday 20 May 1997, in the Los Angeles area. (The actual meeting site is yet to be announced.)

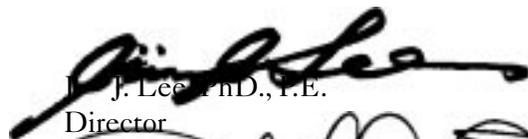
For those wishing to make a presentation/submittal at this meeting, we will require that the Foundation office is notified in writing, including a submittal of the proposed new/modified language to be included in the *Manual*. All pertinent supporting documentation should be included too. This material must be received in the Foundation Office no later than 1 May 1997.

Once this material has been received, the meeting agenda will be established, and the materials forwarded to the members of the Manual Review Committee. We would anticipate that presentations will be limited to 10-15 minutes, but this may vary depending upon the number of presentations/submittals. The general format of the meeting will allow for the individual presentations, with a question and answer period for the members of the MRC to ask questions.

There will be future meetings scheduled for presentations/submittals, however, these future meetings will focus on specific subject areas. The 20 May 1997 meeting will be open for any subject pertaining to the *Manual*.

Should you have any questions regarding the information above, please contact our office.

Sincerely,



J. Lee, Ph.D., P.E.  
Director



Paul H. Schwartz, P.E.  
Chief Engineer

## Training Courses

### Tester Course

Los Angeles, CA  
12-16 May 1997

Carmel, IN  
16-20 June 1997

Los Angeles, CA  
14-18 July 1997

Incline Village, NV  
4-8 August 1997

Charleston, SC  
15-19 September 1997

Kansas City, MO  
20-24 October 1997

Las Vegas, NV  
17-21 November 1997

### Specialist Course

Ft. Worth, TX  
2-6 June 1997

Los Angeles, CA  
21-25 July 1997

## Upcoming Events

ABPA National Conference  
•Asheville, NC  
27-30 April 1997

Hawaii ABPA  
•Honolulu, HI  
5-7 May 1997

Hawaiian Water Works Association  
•Honolulu, HI  
7-9 May 1997

NFPA National Conference  
•Los Angeles, CA  
19-22 May 1997

New Mexico Backflow Prevention  
Society Conference  
•Albuquerque, NM  
28 May 1997

Western Regional ABPA  
•Las Vegas, NV  
7-9 October 1997

San Antonio ABPA  
•San Antonio, TX  
13-15 October 1997



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