

Foundation for Cross-Connection Control and Hydraulic Research
University of Southern California
Manual of Cross-Connection Control
10th Edition

Manual Review Committee
15 April 2003

Foundation Laboratory

Draft Meeting Synopsis

Dr J. J. Lee, Director, welcomed all members of Manual Review Committee (MRC) and visitors. Committee roster distributed. Those in attendance:

MRC:

Mike Ahlee
Ken Anderson
Richard Bird
Dick Carlson
Henry Chang

Marty Friebert
Ernest Havlina
Lloyd Huff
Sam Johnson
J.J. Lee

Mike McKibben
Robert Purzycki
Paul Schwartz
Patrick Sylvester

Staff:

Larry Crane

- Paul Schwartz updated MRC with current EPA activity. An announcement was distributed for the next stakeholders meeting in Washington DC on 16 May 2003. Also distributed information on the updated EPA CCC Manual containing technical corrections.
- Patrick Sylvester updated MRC regarding the Foundation's AWWARF Project #2611, which has been published by AWWARF. It is currently only available to AWWARF subscribers.
- Patrick Sylvester updated MRC regarding the Foundation's ongoing residential survey project in Davenport, Iowa. One hundred eighty-eight of the surveys have been completed, and this data will be provided to UC Berkeley as part of their WET study.
- Paul Schwartz updated the MRC that the deadline has passed for comments for the revised State of CA Title 17/22. Mike McKibben stated that new comments/modifications would still be accepted.
- Motion to accept minutes from 4 February 2003 meeting as modified was passed. Modifications offered by Henry Chang included:

Pg 4, Section 103.3.5 corrected to 10.3.3.5, and the following added to the end of the sentence - “as well as defining the term external adjustment”

Old Business

Item #970506 – Field Evaluation Failure Rates - Staff prepared handout at the last meeting which updated data from Field Evaluations conducted under the 9th Edition. Data indicates that 65% of the failures occur in the final four (4) months of the Field Evaluation, therefore, the Staff recommended that the twelve (12) month Field Evaluation be maintained in the 10th Edition. Staff had been requested to review the Field Evaluation data to determine if there was a difference in the results for products in the horizontal and vertical flowing up orientations. Breakdown of failures by month:

Month of Field Evaluation	Number of Failures	Shared Failure (H & VU)	Shared Approvals (H & VU)
1 st	4	1	↓
2 nd			
3 rd			
4 th			
5 th	1		
6 th	1		
7 th	3	1	
8 th			
9 th	8	1	
10 th	2		
11 th	2	1	
12 th	5		

Staff recommends that for the initial submittal of DC & DCDA Horizontal (H) and Vertical Up (VU) orientations that:

Laboratory Evaluation includes the Cycle Test in the H and VU orientations
 Field Evaluation will require three assemblies in acceptable field sites, including

- One (1) flowing H orientation
- One (1) flowing VU orientation

Action Item: The above Staff recommendation will be incorporated into the Section 10 draft.

RP Field Test Procedure – At the November 2002 MRC meeting Mike Ahlee supplied two modified options to better address the possible effects from disc compression when closing the No. 2 SOV. Staff was asked to review the two options.

- Staff recommendation is to utilize option #2 for Section 9.2.2 steps “h” and “i”:

With high & low side bleed needle valves running
Close #2 shutoff valve
Close high side bleed needle valve
Close low side bleed needle valve

Action Item: Motion to accept Staff recommendation passed unanimously.
Modified language to be incorporated into draft of Section 9.

- Staff recommendation for an additional option for the Field Evaluation of a RP:

With high & low side bleed need valves running
Open testcock #4
Close #2 shutoff valve
Close high side bleed needle valve
Close low side bleed needle valve
Close testcock #4

These additional steps will prevent the No. 2 check valve from being backpressured during the closure of #2 shutoff valve. Direction of flow test is required during the Field Evaluation, but not in the normal field test procedure.

Action Item: MRC accepted recommendation in concept. Modified language to be incorporated into draft of Section 10.

Item #20000201 - DC Bleed Valve Arrangement - Staff report dated 15 April 2003 was distributed which detailed some lab tests to determine what flow rates could be achieved while maintaining an error of no more than 0.2 psid.

Tests conducted by Staff demonstrated that the bleed valve arrangement, as currently detailed in Section A.4.1 of the 9th Edition, will provide accurate (i.e., < 0.2 psi error) readings. However, the common practice of utilizing a swivel-connection connected to a ¼”ø SAE flare connector will induce an inaccurate (> 0.2 psi error) reading.

Multiple needle valve arrangements were evaluated, showing that larger flow rates will be significantly affected by the size of fittings used in the bleed valve arrangement.

Action Item: Staff to prepare additional guidelines for Section 9 so that it will be referenced to the Appendix. The Appendix will then contain the detailed construction of the bleed valve arrangement, and the restrictions for use (i.e., fitting size, needle valve c, etc.).

Material Discussion - Brad Noll supplied a copy of ISO Standard 6509 and Australian Standard AS2345 for MRC reference and review.

Test Kit Standard – Comment letters regarding the draft standard were received from Barton Instruments and BAVCO, and distributed to MRC.

New Business

Staff provided rough drafts of new/revised Sections 3, 4, 5, & 6. The Section outline will be the following:

- i. OBJECTIVES / FOREWARD
1. DEFINITIONS
2. HISTORY
Introduction portion of this section will be moved to Section 3, where it tends to fit better. Larry Crane requested any cross-connection control historical information be forwarded to the Foundation's office.
3. INTRODUCTION / HYDRAULICS
This Section will describe basic hydraulics and backflow, the tools available to prevent backflow, and a detailed section describing how the backflow preventers operate. An entry level discussion of hydraulics will be augmented with an advanced review of hydraulics.
4. ELEMENTS OF CROSS-CONNECTION CONTROL PROGRAM
This Section will describe the critical elements of a cross-connection control program so that an administrative authority may operate a defensible program.
5. CROSS-CONNECTION CONTROL – SURVEYS
This Section will describe the basic steps of preparing and conducting a cross-connection control survey, as well as the documentation/reporting process. Rick Bird requested that there is specific language regarding adequate personnel, and Ken Anderson requested language to relay that this is not a plumbing compliance inspection.
6. FACILITIES
This Section will break down the basic types of facilities by general category (i.e., manufacturing, services, etc.) with subcategories providing more detail.
7. EQUIPMENT
This Section will describe a variety of water using equipment, and the hazards they pose.
8. SAMPLE LETTERS, FORMS, INSTALLATION GUIDELINES, MODEL ORDINANCE
This Section will receive some additional detailing for installation guidelines for internal applications.
9. FIELD TEST PROCEDURES
This Section will be modified so that there are separate illustrated sections for the different needle valve configurations (2, 3, 5 needle valve configurations).

10. STANDARDS FOR BACKFLOW PREVENTION ASSEMBLIES

This Section will contain a new standard for differential pressure gage field test kits.

11. SUMMARY OF CASE HISTORIES

This Section will be updated with new backflow incidents.

A. APPENDIX

This Section will contain updated:

Optional field test procedures

Guideline for field test kit periodic review

Timeline of activities

- MRC to provide comments on the above draft provided materials by 15 May 2003.
- Draft of Section 10 to be prepared for review by manufacturers by 1 June 2003.
- Open MRC meeting (proposed dates below) will allow for additional input.
- Manufacturers to provide written comments on Section 10 by 3 July 2003.
- Staff prepare response to negatives.

Incident Report Form

Marty Freibert recommended to modify the draft incident report form to add a “undetermined” box for the Degree of Hazard on page 2.

Action Item: Motion failed 5 yes, 7 no.

Meeting Schedule:

The following meeting dates are being proposed:

18-19 June 2003 – Open meeting – *tentative- this date may vary slightly depending when other meetings are scheduled (i.e., week of National AWWA AC&E in Anaheim, CA)*

5 August 2003 – General meeting - *tentative*

Adjourned 2:12 pm