

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

Manual Review Committee

29 February 2000

FCCCHR Laboratory
3022 Riverside Drive
L.A., CA 90039

Meeting Synopsis

Paul Schwartz welcomed all members of Manual Review Committee (MRC), Committee roster distributed, address corrections requested.

Those in attendance:

Mike Ahlee	Kathleen Coates-Hedberg	Sam Johnson
Rick Bird	Eric Foltz	J.J. Lee
Dick Carlson	Ernie Havlina	Paul Schwartz
Henry Chang	Lloyd Huff	Patrick Sylvester

- Paul Schwartz updated MRC with current EPA activity. Federal Advisory Committee (FACA) continues to meet regularly in Washington, DC.
- Staff has been soliciting administrative authorities for pass/fail rates from annual field testing of backflow preventers. Annual field testing failure rates range from about 3 -15%.
- Survey from the FCCCHR's AWWARF study was handed out. FCCCHR has received almost a 15% return of the surveys. Data from the surveys is being compiled. A workshop to discuss the initial survey response is currently planned for 7 April 2000 in Las Vegas, NV.
- Motion to accept minutes of 11 January 2000 meeting was passed, with a correction on page 3. The word "the" was removed from the first line of the Limitation under the RP field test procedure.

Old Business

Section 8

Elements of Certification Programs –

Tester and Specialist Subcommittees – Drafts prepared by subcommittees have been reformatted in similar formats.

Action Item: Motion to accept the following modifications to the Specialist Outline.

- Remove “& Examinations” from the title.
- Modify Section I.C.1.b to:
 1. Survey ~~view~~ actual site
 2. Record actual/potential hazards
- Add new section II.A.2: Optional field survey report
- Change III.B: “...governing ~~tester~~ specialist certifications...”

Section 9

DC field test procedure

Bleed Valve Arrangement

Section A.4.1 of 9th Edition identifies bleed valve arrangement with only ¼” fittings. Inquiries have been received from testers concerning larger sized bleed valve arrangements. Staff presented findings of some initial testing in the lab.

¼” ϕ fittings (w/ swivel fitting- ~1/8” opening)

Flow of ~0.4 gpm through the bleed valve produced an error of 0.2 psid

¾” ϕ fittings (w/ ¾” ϕ gate valve)

Flow of ~11-12 gpm through the bleed valve produced an error of 0.2 psid

Action Item: MRC requested staff to compile data on different sized fittings (i.e., 1/8 ϕ , ¼” ϕ , ½” ϕ , ¾” ϕ), and show limits of flow through the bleed valve arrangement that will maintain an accuracy of ± 0.2 psid.

New Business

Internal Air Gap - An inquiry had been received by staff regarding the use of “internal airgaps.” This was demonstrated as a separation from the outlet of the water line above the controlled level of the water *inside* a closed tank. MRC felt that this configuration does not comply with the definition of an air gap.

Section 10

Laboratory and Field Evaluation

Staff has compiled data from the Field Evaluation of assemblies conducted under the 9th Edition. Approximately 33% of the assemblies that successfully completed the 9th Edition Laboratory Evaluation failed the Field Evaluation on their first attempt.

Action Item: Data will be reviewed by Staff to determine how long into the Field Evaluation most failures occurred.

Testcock sizing

The BPMA had requested a reduction in the size of testcocks for 6"-10" assemblies. Flushing and bypassing for field testing were the two main issues cited previously to support the sizing of the testcocks. Staff performed preliminary testing on different sized testcocks. Handout.

RP Field Test Procedure: 6-inch RP
Simulated leak in No. 2 shutoff valve.

Size of testcock	Temporary Bypass Hose	Shutoff valve leak handled with accurate (± 0.2 psid) reading on gage.
1/4"	1/4" x 6' Gage Hose	1.26 gpm
1/2"	5/8" x 6' Garden Hose	14.1 gpm
3/4"	3/4" Sch 40 piping	19.5 gpm

Staff had previously conducted shutoff valve leak tests. Placing fouling wires (ref. Table 10-6) in shut off valves produced flows in the magnitude of 18-19 gpm. It was felt that the 3/4" testcocks on the 6"-10" assemblies were necessary to provide sufficient flow to compensate for this magnitude of leakage.

Section 10.2.2.3.8 - Backsiphonage and Backpressure Test

The BPMA had requested a modification of this test due to the concerns of fouling wire placement. Staff has been researching the existing laboratory test, and possible modifications to the test procedure. Preliminary tests have demonstrated that the following procedure may serve as a possible replacement. A 6-inch RP was set up in the test line for MRC.

The fouling wire in the current laboratory test will imbed in the elastomer disc, typically reducing the leakage path through the check valve. Rather than relying on the placement of the fouling wire on the check valve seating surface, it was suggested by Staff that fixed orifices be used upstream and downstream of the assembly. With the check valves held in the open position, a 1.0 psi backpressure would be created on the downstream orifice. (*Note: The 1.0 psi*

backpressure corresponds to the typical worst case scenario during the current test) The resulting “backflow” would flow back through the open second check valve, and out the relief valve. Then vacuums (i.e., constant and shock) would be applied upstream of the upstream orifice. The resulting “backsiphonage” would draw air in through the relief valve. Any carry-over of water would be cause for rejection.

Staff demonstrated this concept to the MRC so that they could observe the proposed test procedure.

Action Item: Staff to prepare draft of this laboratory test.

Gage Standard

The flow rate requirements through the gage have not been identified. After discussing reasons for flow through the gage “kit”, the MRC requested that Staff perform a review of existing equipment.

Action Item: Staff to perform gage flow tests to simulate the typical uses in the field test procedures (i.e., ¼ turn of needle valves).

Meeting Schedule:

The following meeting dates have been scheduled:

23 May 2000 - *Open meeting* at Friendship Auditorium
27 June 2000 – General meeting at USC Campus or Lab

Adjourned 2:35 pm