

Foundation for Cross-Connection Control and Hydraulic  
Research  
University of Southern California  
*Manual of Cross-Connection Control*  
10<sup>th</sup> Edition

**Manual Review Committee**

29 July 1997

FCCCHR Laboratory

*Meeting Synopsis*

Dr. JJ Lee, Director, welcomed all members of Manual Review Committee (MRC).

Minutes of 10 June 1997 meeting had been mailed to MRC. Motion to approve minutes passed unanimously.

At the 10 June 1997 meeting, the MRC did not complete the review of the proposals submitted by the Backflow Prevention Manufacturers Association (BPMA). The MRC had reviewed items 1 through 12 at the June meeting. Discussion started at item #13.

Item #13 - Bronze material: Minimum 79% copper  
BPMA representative Brad Noll updated the MRC regarding the requirements of NSF 61 and California Proposition 65. Some of the bronze materials currently utilized in backflow preventers may not be acceptable for use in the future.

**Action Item:** Motion to table this subject until more information is provided by BPMA.

Item #14 - Section 10.1.3.7 Elastomer Discs

Request that this Section be rewritten to eliminate the specific durometer hardness ranges. Staff recommendation that this change is acceptable since the elastomer discs will still have to successfully complete all of the Laboratory Evaluation tests, as well as the Field Evaluation.

**Action Item:** Motion to accept the proposed language. Replace the wording in paragraphs a.), b.), and c.) with the following wording: "Check valves, differential pressure relief valves, and air inlet valve discs shall be composed of natural, synthetic elastomers or thermal plastic elastomers."

Item #15 - Orientations

Request that assemblies are cycle tested in all orientations, but field tested in only one orientation.

**Action Item:** Motion to table this item until Staff can review data comparing cycle testing and field evaluation results. (Determine if there is sufficient data for assemblies which are approved horizontally, passed vertically in the lab, then failed in the field)

Item #16 - Opening and Closing Points

Request to lower minimum RV opening point from 2.0 psid to 1.0 psid. Considerable discussion regarding the origin of the 2 psid value, long term effects of lower value, and potential safety factors. Additional request to lower the closing points of check valves from 1.0 psid to 0.5 psid.

**Action Item:** Motion to gather field test data from the MRC members, specifically, what are the typical drops in performance from year to year. MRC members to gather data from their respective agencies and submit to Staff by 5 September 1997, so that data can be sent out to full Committee for 23 September 1997 meeting.

Item #17 - Differential Pressure Relief Valve Port

Request to eliminate the relief valve port diameter from Table 10-4. Staff presented some preliminary data to establish basic Cv values for the different sized relief valves. Some of these values are higher than the current values in Table 10-4.

**Action Item:** Staff to review the discharge capacities of currently approved RP assemblies to determine if they meet the proposed values, and report back to MRC.

Item #18 - Hydrostatic Test

Already covered under Item #3, approved during 10 June 1997 meeting.

Item #19 - Backsiphonage Test

Proposed an alternative relief valve capacity test to determine the ability of the relief valve to discharge water while satisfying a backsiphonage condition.

**Action Item:** BPMA to provide proposed wording for an alternate backsiphonage test.

Item #20 - Double Check Valve Assembly Cycle Test

Proposed that the test be conducted as written, i.e., testcock #3 be left closed during the cycle test. Brad Noll recommended that the test be conducted with the testcock #3 closed.

**Action Item:** Motion to table until Staff has completed their cycle test research.

Item #21 - Reduced Pressure Principle Assembly Cycle Test

Proposal to rewrite test so that relief valve does not open with each cycle.

**Action Item:** Motion to table until Staff has completed their cycle test research

Item #22 - Modification to DCDA Standard

Proposal to eliminate the requirement for an approved double check valve assembly in the bypass. Consider a single check valve in the bypass around a single check valve of the mainline assembly.

**Action Item:** Motion to accept in concept. BPMA to supply proposed modifications of standard for MRC to review.

Proposal to modify the wording for the placement of the bypass connections to the mainline assembly.

**Action Item:** Motion to modify Section 10.2.6.1.e as follows: “The bypass piping must attach to the line-size assembly ~~body downstream of~~ between the No. 1 shutoff valve and the No. 1 check valve, and ~~upstream of~~ between the No. 2 check valve and the No. 2 shutoff valve. This is to allow for testing and maintenance of the bypass assembly.”

Proposal to eliminate Sections 10.2.6.1.f and 10.2.7.1.f. due to design restrictions.

**Action Item:** Motion to eliminate Section 10.2.6.1.f and Section 10.2.7.1.f.

Item #23 - 3 psid buffer

Proposal that the field test procedure be rewritten not to require that a RP be failed when the buffer is less than 3 psid.

**Action Item:** Motion to table this issue until the data from Item #16 is submitted and reviewed.

Item #24 - DC Field Test Procedures

Proposal to rewrite field test procedure as a low head backpressure test.

**Action Item:** Motion to table this issue until the data from Item #16 is submitted and reviewed.

## Old Business

BPMA Item #5 - Section 10.1.2.2 Removability

Report from Brad Noll to follow up from last meeting. This Section requires that each separate check valve body (i.e., threaded, flanged, etc.) must be capable of being removed individually from line. Staff reviewed past editions of the Manual and reported that this Section had been established to allow room for line bolts to be installed and removed. Many currently approved products do not comply with the letter of this Section. Staff recommended that this Section is removed.

**Action Item:** Motion to remove Section 10.1.2.2.

BPMA Item #6 - Section 10.1.2.3 Accessibility

Report from Brad Noll to follow up from last meeting. MRC listed concerns with reference to a "pipeline supporting component," such as:

- Ease of Repair
- Weight of Components
- Load/Torque limitations

**Action Item:** Brad Noll to return with reworded proposal.

**New Business**

Staff Reports- *Hand out materials*

Febco - Received information from Underwriters Laboratory regarding audits, but still awaiting additional information from Febco.

Lab Research-

Cv tests for relief valve orifice size

Cv tests for testcock flow rates

Shutoff Valve Leaks -Preliminary tests with fouled shutoff valves to establish leakage rates, and to help justify testcock sizes.

Preliminary gage hose flow rates

Updated results of preliminary cycle test research

**Meeting Schedule:**

23 September 1997 - MRC Open Session

11 November 1997 - General Meeting

Adjourned