

**Cross Connection Control Committee
Western Canada Section
American Water Works Association**

Box 1708 126 3rd Ave W
Cochrane, Alberta
T4C 1B6

**APPLICATION FOR SCHOOL ACCREDITATION
For
CROSS CONNECTION CONTROL SPECIALIST (TESTERS) COURSE**

A. Introduction

General concern over the adequacy of current legislation, and control to prevent contamination of potable water, as a result of backflow through cross connections, lead to the formation of the Cross Connection Control Committee under the Western Canada Section of American Water Works Association (WCS).

In order to qualify as an approved school for teaching the WCS, Cross Connection Control Specialist (testers) course, the institution is required to agree with the committee's specifications.

The applicant is requested to review this application and initial each point to verify agreement and deposit two hundred dollars (\$200.00) to cover the following fee/cost schedule. (The approval process will require on-site inspection visit(s) of laboratory facilities).

- First visit - \$500.00 administration fees plus any or all attributed cost associated with the inspection visit.
- Subsequent visits - \$35.00 administration fees plus any or all attributed cost associated with the inspection visits.

Upon successful accreditation any remaining funds will be refunded to applicant or any additional cost will be billed to the applicant.

B. School Identification

Name of Educational Institution: _____

Address: _____

City: _____ Province: _____ Postal Code: _____

Phone: () _____ Fax: () _____

Name of Contact _____ Position: _____

Email _____

C. 1. Course of Instruction

Initial The Institution agrees to submit their proposed course of instruction, which will be similar in format and content to that listed in Appendix A

2. Textbook

Initial The Institution agrees to use the Cross Connection Control Manual by WCS, as the course textbook. Each student will be required to purchase a copy of the manual, which will be used as the course textbook

Initial The Cross Connection Control manuals will be ordered from the Office (Box 6168 Station A, Calgary AB T2H 2L4). The Institution Bookstore may purchase the manuals at a 20% discounted price. The manuals are to be resold at the full price, as specified by the WCS, with the surplus fees intended to cover the Bookstore costs. The Course Instructor may also order manuals on a per/class basis. These manuals are to be purchased and resold at the full price specified by the WCS.

3. Examination

Initial The Institution agrees to conduct the WCS Testers Examination:

- 1) At no additional cost to students other than the specified WCS Certification fee.
- 2) At no cost to the WCS.

Initial The WCS will provide a keyed bank of questions from which the instructor (s) of the Institution would chose 100 questions to make up the written portion of the examination. Upon successful completion of the written portion by the student (75% or higher) it is required that a practical examination be challenged. The Institution and the Instructors agree to safeguard, to the best of their ability, the bank of questions and answer keys to ensure that the content does not become common knowledge. Failure to comply with this requirement shall result in disciplinary action.

PROCEDURE:

- Initial
1. Each student wishing to be certified by the WCS as a Cross Connection Control Tester must complete the "Application for Certification - Cross Connection Control Specialist" form. [See copy of form in Appendix A].
 2. Students are required to successfully complete the written and practical examination. The Examiner will record these marks on the bottom on the Application.
 3. The examiner will submit the application, along with the certification fees, to the provincial certification officer, who will record the information. The applications and answer sheets will then be forwarded to the WCS office.
 4. The WCS Office will provide certificates of confirmation to the successful applicants or a letter of regret to the unsuccessful applicants and will maintain permanent records of all certified testers.

4. Instructors

Initial

A Cross Connection Control Instructor shall have successfully acquired the following qualifications:

- 1) Completion of the WCS, Cross Connection Control Testers Course; and
- 2) Successfully challenged the WCS, Cross Connection Control Specialist examination (or equivalent); and
- 3) Successfully challenged the WCS, Cross Connection Control Instructors Examination; and
- 4) Attained a combined mark average of 85% (85 points) on the specialist and instructors exam; and
- 5) Shall have obtained experience in two of the following three areas:
 - Related teaching experience (i.e. Plumbing)
 - Co-instructing a Cross Connection Control Testers Course with a certified instructor.
 - Related field experience (i.e. Journeyman Plumber or Backflow Preventer Tester)

An Instructor may make application for certification to the WCS. [See copy of application in Appendix C]. A certification fee of \$30.00 is to be forwarded with the application. Upon verification that the candidate meets the necessary criteria, an instructors certificate will be prepared and issued or a letter of regret to the unsuccessful applicants.

The Institution must have at least one Instructor who has qualified as a Cross Connection Control Instructor (as per the requirements listed above). Instructor Certification will be required prior to school accreditation.

List Names of Certified Instructors

(Instructors who currently hold a AWWA Instructors Certificate)

List Names of Instructors Applying for Certification (to be included with the Application for School Accreditation)

D. Classroom Teaching Aids

- 1) The Institution is required to own, or have access to, a minimum of three suitable video tapes and/or films (Indicate the titles below which the Institution has access. [See Videos/Films listing in Appendix D]

Confirmed

- 2) The Institution confirms access to adequate Audio-Visual Equipment

_____ Initial

- 3) The Institution must have a minimum of one each of the non-testable backflow preventers from various manufacturers (Indicate number of devices and initial beside each device which the Institution has):

	<u>Number</u>	<u>Confirmed</u>
Dual Check with Atmospheric Port		
Dual Check with Intermediate Vent		
Hose Connection Vacuum Breaker		
Laboratory Faucet Vacuum Breaker		
Atmospheric Vacuum Breaker		
Dual Check Valve		

- 4) The Institution must have a minimum of one each of the cut-a-ways listed below. (Indicate number of assemblies and initial beside each assembly which the Institution has):

	<u>Number</u>	<u>Confirmed</u>
Reduced Pressure Principle Backflow Prevention Assembly		
Double Check Valve Assembly		
Pressure Vacuum Breaker		

- 5) The Institution has a flanged backflow preventer 2 1/2" or greater.

_____ Initial

E. Laboratory Facilities

Initial 1) The Institution shall provide an adequate laboratory area for testing backflow prevention assemblies. The Institution shall provide one workstation per student within the laboratory.

Initial 2) The Institution must provide a minimum ration of one Reduced Backflow Prevention Assembly (RP) per student, one Double Check Valve Assembly (DCVA) per two students and one Pressure Vacuum Breaker (PVB) per three students. All assemblies shall be CSA or USC approved

To accommodate the interchanging of the different backflow prevention assemblies, each workstation shall be installed with the appropriate fittings to mount a RP, DCVA and PVB.

Each workstation shall be fitted with a supply of water to allow for the testing of these backflow prevention assemblies.

The Institution must ensure the backflow prevention assemblies are representative of several manufacturers.

The Institution shall provide a minimum of one Differential Pressure Guage test kit per student, one Duplex gauge test kit per class and one set of site tubes per student.

The Institution must ensure the test kits are representative of several manufactures.

Education Institutions within the prairie provinces may apply to the Western Canada Section, AWWA, Cross Connection Control Committee for accreditation as an institute approved to instruct the cross connection control testers course. Upon request, the committee will forward the necessary application form.

3) State the Number of Workstations to be provided: _____

(The number of approved workstations determines the number of students per course.)

4) The Institution shall provide a minimum of one Differential Pressure Gauge test kit per student, one Duplex gauge test kit per class and one set of site tubes per two students.

5) Attach photographs of laboratory facilities, clearly showing a typical work station within the Institution.

6) Items 1,2,3,4 and 5 shall apply to all Mobile Laboratories.

F. Site Inspection

The facilities at the Institution will be inspected by a Committee Representative upon receipt of an application and annually thereafter. Approval is hereby:

Recommended for Approval

_____ Not Recommended for Approval

(If not recommended for approval, please note areas of deficiencies

**Signed by AWWA CCC Site
Inspector**

APPENDIX A

Course of Instruction

The required course of instruction is designed to be a minimum of 30 hours duration, the institution may have the option of assigning additional homework in order that the course of instruction and examinations may be completed within a one-week space. The course is to follow an outline similar to that provided below:

UNIT 1 - COURSE INTRODUCTION

3 HOURS

Objectives:

The student will learn:

- 1) The intent of the program,
- 2) The course outline,
- 3) Layout/purpose/application of the manual,
- 4) History of the program,
- 5) Legal and health aspects,
- 6) Typical hazards/case histories

Text and References: latest edition of the Cross Connection Control Manual, published by the Western Canada Section, AWWA [AWWA Canadian CCC Manual].

Exercises: Course outline/manual search.

Teaching Aids: appropriate films or videos (i.e.: "Cross Connections, The Unseen Hazards").

UNIT 2 - ADMINISTRATION

3 HOURS

Objectives:

The student will learn:

- 1) Administration aspects of the program,
- 2) Local bylaws and codes,
- 3) Use of forms and tags,
- 4) Abbreviations and symbols,
- 5) Definitions and terminology.

Text: AWWA Canadian CCC Manual - Local forms and tags.

Exercises: Home study materials, symbols and abbreviations test, definitions test.

Teaching Aids: overhead transparencies for review of tests.

- Appropriate films or videos (i.e.: "Anybody Can Do It").

UNIT 3 - METHODS OF CONTROL

3 HOURS

Objectives:

The student will learn:

- 1) The principles, effect, limitations and regulations with respect to non-mechanical methods of protection (air gap and barometric loop);
- 2) The principles of operation, effect and regulations with respect to non-testable devices (atmospheric vacuum breakers, hose connection vacuum breakers, dual check valves and dual check valves with atmospheric port, dual check valve with intermediate vent, lab faucet backflow preventers and vending machine B.F.P).

Text and References: CCC WCS AWWA Manual, Manufacturers Literature

Exercises:

- 1) Facts about pressures,
- 2) Facts about barometric loops,
- 3) Facts about air gaps,
- 4) Facts about non testable devices

Teaching Aids: Samples and cut-away models of above devices; overhead transparencies of above devices. Appropriate films or videos (i.e.: "Water, Water, Everywhere".)

UNIT 4 - HAZARD IDENTIFICATION AND METHOD OF PROTECTION

3 HOURS

Objectives:

The student will:

- 1) Recognize typical hazards
- 2) Hazard classification
- 3) Device applications

Texts and References: AWWA Canadian CCC Manual

Exercises:

- 1) Device application drawing exercise
- 2) Student sample - personal experience with cross connections (explain and sketch situation-classification - device)
- 3) Home study material

Teaching Aids: overhead transparencies and slides of typical hazards

**UNIT 5 - TESTING PROCEDURES FOR DOUBLE CHECK VALVE ASSEMBLY (DCVA) AND
PRESSURE VACUUM BREAKER (PVB)**

3 HOURS

Objectives:

The student will learn:

- 1) Preliminaries to the testing of DCVA and PVB
- 2) How to complete forms and tags
- 3) Principles and operation of the DCVA and PVB
- 4) Testing procedures for the DCVA and PVB
- 5) Installation practices

Texts and References: AWWA Canadian CCC Manual; Manufacturers' Literature

Exercises -

- 1) Parts of the DCVA and PVB
- 2) Order of testing procedures of the DCVA and PVB
- 3) Home study material

Teaching Aids:

- 1) Overhead transparencies of DCVA and PVB
- 2) Cut-away models of DCVA and PVB
- 3) Lab facility
- 4) Testing equipment

**UNIT 6 - TEST PROCEDURES FOR THE REDUCED PRESSURE PRINCIPLE BACKFLOW
PREVENTER (RP) 3 HOURS**

Objectives:

The student will learn:

- 1) Principle of operation of the RP
- 2) Testing procedure of the RP
- 3) Installation practices

Texts and References: CCC WCS AWWA Manual; Manufacturers' Literature

Exercises:

- 1) Parts of a RP
- 2) Order of testing procedure for RP

Teaching Aids:

- 1) Overhead transparencies of the RP
- 2) Cut-away model of the RP
- 3) Lab facility
- 4) Testing equipment

UNIT 7 - TESTING PROCEDURE APPLICATION 6 HOURS

Objectives:

The student will improve testing skills of the PVB, DCVA and RP through practice

Texts and References:

Exercises: Hands on testing

Teaching Aids:

- 1) Lab facility
- 2) Testing equipment

UNIT 8 - COURSE REVIEW 3 HOURS

Objectives:

The Student will:

- 1) Review hazards, classifications and backflow preventer applications
- 2) Review testing procedures

Texts and References: AWWA Canadian CCC Manual; Notes and Exercises

Teaching Aids: an appropriate film or video

UNIT 9 - PRACTICE TESTING

Objectives:

The student will:

- 1) Improve testing skills through practice
- 2) Learn the procedure of the practical exam

Texts and References: CCC WCS AWWA Manual

Exercises: Hands on testing

Teaching Aids: Lab testing facility, testing equipment

APPENDIX B

Western Canada Section, American Water Works Association

**Application for Certification / Re-Certification
Cross Connection Control Specialist**

Complete this application, **typed or legible hand printed** in ink and return to:

Mr./Mrs _____
Certification Officer, Cross Connection Control Committee
Western Canada Section AWWA

Applicant's Name: _____
Surname First Other Initials

Address: _____

City: _____ Province: _____ Postal Code: _____

Telephone: Cell (____) _____ Home (____) _____

Email: _____

Employers Name: _____

Address: _____

City: _____ Province: _____ Postal Code: _____

Business: Telephone: (____) _____ Fax: (____) _____

When applying for Re-certification please provide previous AWWA Certification number

Number of Years previous experience in:
_____ Water Utility Field _____ Piping Trades Teaching
_____ Plumbing Trade _____ Other (Please specify)
_____ Public Health Field _____

Administration costs for the Cross Connection Control Certification or Re-Certification program is Thirty Dollars (\$30.00) Please **Submit PAYMENT WITH APPLICATION**. Please make your cheque Payable to "**Western Canada Section AWWA**"

To be completed by the Examiner:

Date of Exam: _____
Year Month Day

Test Score: Written _____% Practical: _____% Course Score: Pass ____ Fail ____

Examiner's Name: _____

Education Institution: _____

APPENDIX C

Western Canada Section, American Water Works Association

**Application for Certification
Cross Connection Control Instructor**

Applicant's Name: _____

Address: _____

City: _____ Province: _____ Postal Code _____

Telephone No: Home: _(_____) _____ Bus: _(_____) _____

Email: _____

A. _____ Completed the AWWA, WCS Cross Connection Control Testers Course or other (please specify): _____

Educational Institute: _____

Instructor's Name: _____

_____ Completed the AWWA, WCS Cross Connection Control Specialist's examination or other (please specify): _____

Examiner: _____ Mark Rec'd: _____ Date: _____

_____ Completed the AWWA, WCS Cross Connection Control Instructor's examination or other (please specify): _____

Examiner: _____ Mark Rec'd: _____ Date: _____

Average Combined Mark received: _____

B. Related teaching experience, course: _____

Educational Institute: _____

Date: From: _____ To: _____

C. Related field experience, Journeyman Plumber. Trade Proficiency No. _____

Issued by: _____ Date: From: _____ To: _____

D. Co-Instructing Cross Connection Control Testers Course:

<u>Educational Institute</u>	<u>Date</u>	<u>Certified Instructor</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Administration costs for the Instructor's Certification Program is Thirty Dollars (\$30.00). Please submit payment with the application: Please make your cheque Payable to "Western Canada Section AWWA"

FOR OFFICE USE ONLY

Application Approved _____ Unapproved _____

Date: _____

Signature, Certification Officer
WCS AWWA CCC Committee

APPENDIX D
TEACHING AIDS - VIDEOS/FILMS

- Anybody Can Do It
* Produced by Epic Films for the Texas State Board of Examiners
- A Thousand Years From Rome
* Produced by Hersey Products Inc.
- Backflow Prevention Device Testing
* Produced by New England Waterworks Association
American Water Works Association
- Cross Connections
* Produced by National Rural Association
- Cross Connections: The Unseen Hazard
* Produced by Epic films for the Texas State Board of Plumbing Examiner's
- The Ominous Arms Case
* Produce by Atlas Film Company
- Water Water Everywhere
* Produced by the Los Alamos, New Mexico National Laboratory
- What Happened to Harry - Back Siphonage