



# ACWWA Chlorine Handling & Disinfection

**October 15-18, 2018**

**Charlottetown, PE**

**WORKSHOP DESCRIPTION:**

**Course Description:** This four-day course provides coverage of all fundamental subjects relating to the transportation, safe handling, storage and metering of chlorine gas and hypochlorite solutions. Alternative methods of disinfection are also discussed. Format includes presentations, group discussions, homework assignments and (when practical) a field trip.

**Who Should Attend:** Designed for operators of water and wastewater treatment facilities, this course is also recommended for all those working in or providing design and support for industries using chlorine and related disinfection agents. Operators must also obtain on site, site-specific training as per WCB regulations.

**COURSE OBJECTIVE:** To provide a foundation of knowledge on chlorine disinfection and safe practices in support of continuing operator education.

TIME	DAY 1	DAY 2	DAY 3	DAY 4
08:00 - 10:00	<ul style="list-style-type: none"> <li>• Registration &amp; Introductions</li> <li>• Water for Human Consumption</li> <li>• Water Quality</li> <li>• Hydrological Cycle</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz #1</li> <li>• Review of Day 1</li> <li>• Chlorination Chemistry</li> <li>• Dosage/ Demand/Residual</li> <li>• Definitions/Terminology</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz #2</li> <li>• Review of Day 2</li> <li>• Emergency Response to Chlorine Incidents</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz #3</li> <li>• Review of Day 3</li> <li>• Disinfection of new mains/repair mains, wells and reservoirs</li> </ul>
10:00 - 10:15	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:15 - 12:00	<ul style="list-style-type: none"> <li>• Water Sources</li> <li>• Water Storage</li> <li>• Multi-Barrier Approach</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Math</li> <li>• Dosage Calculations</li> </ul>	<ul style="list-style-type: none"> <li>• Personal Protective Equipment</li> <li>• Equipment safety materials of const.</li> <li>• Hypochlorination</li> </ul>	<ul style="list-style-type: none"> <li>• Metering &amp; Control Systems</li> <li>• Chlorine Feed Room Design</li> </ul>
12:00 - 1:00	Lunch Break	Lunch Break	Lunch Break	Lunch Break
1:00 - 2:30	<ul style="list-style-type: none"> <li>• Disinfection Principles</li> <li>• Alternate Methods of Disinfection</li> <li>• Why Chlorination?</li> <li>• Historical use</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment Overview</li> <li>• Evaporators</li> <li>• Changing Chlorine Cylinders</li> <li>• Automatic Changeover</li> </ul>	<ul style="list-style-type: none"> <li>• Preventative Maintenance</li> <li>• Withdrawal Rates</li> <li>• Facility Tour (optional)</li> </ul>	<ul style="list-style-type: none"> <li>• Full Review</li> </ul>
2:30 - 2:45	Coffee Break	Coffee Break	Coffee Break	Coffee Break
2:45 - 4:00	<ul style="list-style-type: none"> <li>• Chemical/Physical Properties of Chlorine</li> <li>• Chlorination Overview</li> <li>• Gas Chlorinators</li> <li>• Short Review</li> </ul>	<ul style="list-style-type: none"> <li>• Chlorine Relevant Water Treatment Processes</li> <li>• Short Review</li> </ul>	<ul style="list-style-type: none"> <li>• Facility Tour (cont'd)</li> </ul>	<ul style="list-style-type: none"> <li>• Written Exam</li> <li>SAFE TRIP HOME</li> </ul>

**PRESENTER:**

Lorne Johanson has an educational background in zoology, with a master's degree in environmental science. Lorne has over 25 years of experience in the water/wastewater industry, initially as a manufacturer's representative and district manager and later as an educator and consultant. Lorne has been developing and conducting technical workshops for BCWWA for over 20 years and can be credited with the development of the Chlorine Handler's Course, and various water treatment, distribution and supervisory courses.

**CONTACT INFORMATION:**

Registration can be made by faxing or mailing the registration form on the reverse of this page, or on-line at [www.acwwa.ca](http://www.acwwa.ca). For further information, please contact ACWWA Section office at 902-434-6002.

**COURSE LOCATION:**

Rodd Royalty 14 Capital Drive Charlottetown, PE

**ACWWA Chlorine Handling & Disinfection**

**October 15-18, 2018**

**Charlottetown, PE**

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City, Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

ACWWA Membership No: \_\_\_\_\_ WEF Membership No: \_\_\_\_\_

If no membership number is listed, you will be invoiced as a non-member. See pricing below.

**Fee for ACWWA or WEF Members & Employees of UTILITY Members**

Fee for ACWWA or WEF members  
Course: \$895.00 + \$134.25 HST (15%) = \$1029.25

**Fee for Non – Members**  
Course: \$975.00 + \$146.25 HST (15%) = \$1121.25

Fees include coffee breaks each day, but not meals.

**Invoices will be sent to the address listed above.**

PO number to be included on the invoice \_\_\_\_\_

**Payment can be made by Visa, Master Card or cheque.**

Card Holder's Name \_\_\_\_\_

Credit Card Number \_\_\_\_\_

Expiry \_\_\_\_\_ CVV \_\_\_\_\_

Signature \_\_\_\_\_

Email address for credit card receipt \_\_\_\_\_

Cheques should be made payable to:  
**ACWWA**  
PO Box 28141 · Dartmouth, NS · B2W 6E2  
Phone 902-434-6002 Fax 902-435-7796