

78th Annual North Carolina Waterworks Operators School

September 25 - 29, 2017



Including Advanced Day

Wednesday, September 27, 2017

NCSU McKimmon Center - Raleigh, NC

Presented by the North Carolina Waterworks Operators Association with the cooperation and sponsorship of the North Carolina Department of Environmental Quality, Division of Water Resources, Public Water Supply Section

Class Schedule for A, B & C Well and A, B & C Surface

Monday, September 25

1:00pm – 1:45pm Registration - McKimmon Center

1:45pm – 5:00pm Report to your assigned classroom for General Announcements & Classes

Tuesday, September 26

8:00am – 5:00pm Classes – Report to your assigned room – Lunch Provided

7:00pm – 9:00pm Review – Holiday Inn Express & Suites (3741 Thistle-down Dr. off of Gorman St.)

Wednesday, September 27

8:00am - 4:00pm Exhibit Hall Open during Lunch & Breaks

8:00am – 5:30pm Classes – Report to your assigned room – Lunch Provided

12:05pm – 1:45pm AWARDS BANQUET LUNCHEON - McKimmon Center

6:15pm – 7:45pm “Brain Break” - Buffet, fun & door prizes - Holiday Inn Express & Suites
(3741 Thistle-down Dr. off of Gorman St.)

Thursday, September 28

8:00am – 5:00pm Classes – Report to your assigned room – Lunch Provided

6:00pm – 8:00pm Exam for Lab Analyst Certification – Bacteriology or Process Control Chemistry
(see page 11 for details and registration)

Friday, September 29

8:00am – 1:00pm Classes – Report to your assigned room

School **REGISTRATION FORM** must be received by **September 18, 2017**.

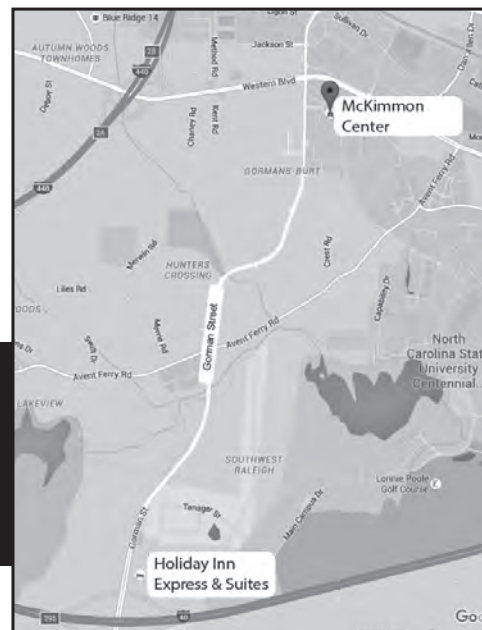
Applications accepted on a first-come, first-served basis. Class sizes are limited.

See page 4 for specific topics being REVIEWED in your class. Exact class agenda will be handed out at registration on Monday, September 25, 2017.

The first traditional exam following the school is Thursday, October 26, 2017.

**Host hotel will be the
Holiday Inn Express & Suites**

(3741 Thistle-down Drive - 2.2 miles from McKimmon Center)





CHECKLIST

The following checklist is provided for your use to insure that you have taken the necessary actions to attend the School and be qualified to take the Exam.

- Send Class Registration Form (see page 6) and payment for the SCHOOL to:
Cindy Gall, Comptroller
NCWOA
PO Box 4519, Emerald Isle, North Carolina 28594
Phone: 252-764-2094 ext 2,
Fax: 252-764-2095
Email: cindy@ncwoa.com

Make check payable to: "NCWOA" or "North Carolina Waterworks Operators Association"
Registration must be received by September 18, 2017.

- Send EXAM APPLICATION and check for \$50.00 to the NCWTFO Certification Board:
Visit the NCWTFO website for the electronic, apprentice or regular exam applications:
<http://deq.nc.gov/about/divisions/water-resources/operator-certification/drinking-water-operator-certification/dw-operator-certification-exams>. Phone: 919-707-9040

If you wish to take the exam on October 26, 2017, your exam application must be postmarked no later than September 26, 2017. On application put "To Attend" dates of 9/25 -9/29/2017.

- Make hotel reservations – **HOST HOTEL IS THE HOLIDAY INN EXPRESS & SUITES**
To make reservations, call 919-854-0001 or 1-800-HOLIDAY. Guest should request group code WOA or group title NC Waterworks Operators Association.
Deadline for special group rate is September 5, 2017. (See page 8).
- Order study materials (see pages 9-10). All exam questions are taken from the books listed in Part I on page 9 for surface exams & page 10 Part I for well exams.
- Individuals registering for the Lab Analyst Voluntary Certification Exam (Process Chemistry or Bacteriology), please refer to page 11.
- Read and study recommended materials. **Be sure to bring a calculator to ALL classes.**

NO EXAMS -

Friday, September 29, 2017

Water Treatment Facility Operators Certification Board's
2016-2017 Examination Schedule for Cross-Connection
and All Levels of Surface, Well and Distribution.
(Contact the Certification Board for dates & sites for
electronic testing.)

Dates of Exams:

Last Thursday of:
October
February
May
August

Usual Location of Exams:

Lenoir Community College in **Snow Hill**
McKimmon Center in **Raleigh**
Collett Community Center in **Morganton**

Reminders

Awards Banquet Luncheon & Business Meeting Wednesday, Sept. 27 12:05pm - 1:45pm

VOTE ON THE FOLLOWING BY-LAW CHANGES:

Article VI, Section 3, 3.2

Currently reads

"...the Parent Association will remit to each section twenty percent (20%) of the dues received from members residing or working within each said section each year, ..."

Proposed, shall read

"...the Parent Association will remit to each section four percent (4%) of the dues received from members residing or working within each said section each year, ..."

Article X, Eligibility of Award

Currently reads

"All members of the Association will be eligible for the award."

Proposed, shall read

"All members of the Association, including water industry support, will be eligible for the award."

WANT TO BE BETTER PREPARED TO TAKE YOUR CERTIFICATION EXAM? *Online Supplement for Certification Exam Review*

All attendees of NCWOA Certification Schools will be eligible to enroll in an online course that will supplement and enhance the materials presented in the week-long class. The online supplement is an optional, web based Moodle class that includes multiple practice tests, videos of worked math problems, copies of presentation materials for many of the topics presented in the week-long school, and additional materials that will help you prepare for the certification exam. The online supplement will be available by the first day of the week-long school and will be accessible until the day of the first traditional certification exam after the school.

If you wish to participate in this program, please be sure that YOUR email address is included on your registration form. Please note the online supplement is optional.

Individuals who register for the week-long school will receive an email with directions on how to log in and access the class.

Surface & Well Review Topics

A-SURFACE REVIEW TOPICS

Administration
Bacteriology
Coagulation & Flocculation
Corrosion Control
Disinfection & Disinfection By-Products
Distribution & Cross-Connection
Drinking Water Regulations & Rules
Fluoridation
Handling & Disposal of Process Wastes
Instrumentation
Iron & Manganese Removal
Lab Procedures & Sample Collection
Math
Maintenance
Plant Operations
Pumps
Safety
Sedimentation & Filtration
Taste & Odor
WTP Operator & Reservoir Management

B-SURFACE REVIEW TOPICS

Bacteriology
Coagulation & Flocculation
Corrosion Control
Disinfection & Disinfection By-Products
Distribution & Cross-Connection
Drinking Water Regulations & Rules
Fluoridation
Handling & Disposal of Process Wastes
Instrumentation
Iron & Manganese Removal
Lab Procedures & Sample Collection
Math
Maintenance
Plant Operations
Pumps
Safety
Sedimentation & Filtration
Taste & Odor
WTP Operator & Reservoir Management

C-SURFACE REVIEW TOPICS

Bacteriology
Coagulation & Flocculation
Corrosion Control
Disinfection & Disinfection By-Products
Distribution & Cross-Connection
Drinking Water Regulations & Rules
Fluoridation
Iron & Manganese Removal
Lab Procedures & Sample Collection
Math
Maintenance
Plant Operations
Pumps
Safety
Sedimentation & Filtration
Taste & Odor
WTP Operator & Reservoir Management
Jar Testing

A-WELL REVIEW TOPICS

Administration
Instrumentation
Bacteriology
Iron & Manganese Removal
Corrosion Control
Lab Procedures & Sample Collection
Disinfection & Disinfection By-Products
Maintenance
Distribution & Cross-Connection
Math
Drinking Water Regulations & Rules
Membrane Processes
Fluoridation
Safety
Groundwater Hydrology
Softening
Handling & Disposal of Process Wastes
Well Construction
Pumps

B-WELL REVIEW TOPICS

Pumps
Instrumentation
Bacteriology
Iron & Manganese Removal
Corrosion Control
Lab Procedures & Sample Collection
Disinfection & Disinfection By-Products
Maintenance
Distribution & Cross-Connection
Math
Drinking Water Regulations & Rules
Membrane Processes
Fluoridation
Safety
Groundwater Hydrology
Softening
Handling & Disposal of Process Waste
Well Construction
Well-Water Chemistry

C-WELL REVIEW TOPICS

Pumps
Bacteriology
Corrosion Control
Lab Procedures & Sample Collection
Disinfection & Disinfection By-Products
Maintenance
Distribution & Cross-Connection
Math
Drinking Water Regulations & Rules
Operation of Small Water Systems
Groundwater Treatment Process
Safety
Groundwater Hydrology
Softening
Well Construction
Well-Water Chemistry



NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

Advanced Day Agenda

Wednesday, September 27, 2017
Raleigh, NC

Plan Now for the Future! Emergency Preparedness & Alternative Technologies

EXHIBIT HALL OPEN FROM 8:00AM - 4:00PM

Session 1

8:30 am – 8:40 am	Welcome and Opening Remarks
8:40 am – 9:25 am	Public Water Supply – Regulatory Update
9:25 am – 10:15 am	Interconnection Agreements - Buying & Selling Water

Break: 10:15 - 10:45

Session 2

10:45 am – 11:30 am	Emergency Planning - Plan and Practice Before a Major Event
11:30 am – 12:05 pm	Practical Experiences with the Public & Media after Major Events

**Awards Banquet Luncheon
Provided on site 12:05 – 1:45**

Session 3

1:45 pm – 2:30 pm	Alternative Disinfectants (Ozone, UV, etc.)
2:30 pm – 3:00 pm	Practical Experience with Ozone or UV

Break: 3:00 – 3:20

Session 4

3:20 pm – 4:20 pm	Available & New Technologies for Membrane Treatment
4:20 pm – 5:05 pm	Practical experience with Membranes
5:05 pm	Certificates awarded certifications

This class has been pre-approved for 6 contact hours for drinking water certification.



NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

Annual Fall School Registration Form

Must be RECEIVED BY September 18, 2017

Please Print or Type

NAME (First, MI, Last): _____

NICK NAME for TAG: _____ SOCIAL SECURITY #: XXX-XX-_____

EMPLOYER / ORGANIZATION: _____

ADDRESS FOR CONFIRMATION & MAP: _____

CITY: _____ STATE _____ ZIP _____ COUNTY: _____

WORK PHONE: _____ EXT: _____ FAX: _____

ATTENDEE'S EMAIL ADDRESS: _____

ATTENDEE'S INDIVIDUAL NCWOA MEMBER # (must be included to be eligible for member rate): _____

NC WATER TREATMENT CERTIFICATE TYPE PRESENTLY HELD:

- AS BS CS AW BW CW DW
- AD BD CD DD CC/BF NONE

NC WATER TREATMENT CERTIFICATE # (OPERATOR ID #): _____

PLEASE **CHECK** WHICH CLASS YOU ARE REGISTERING FOR AND **CIRCLE** RATE:

<u>CLASS TITLE</u>	<u>NCWOA MEMBER RATE</u>	<u>NON-MEMBER RATE</u>
<input type="checkbox"/> A-Surface (M-F)	\$ 300.00	\$ 355.00
<input type="checkbox"/> B-Surface (M-F)	\$ 300.00	\$ 355.00
<input type="checkbox"/> C-Surface (M-F)	\$ 300.00	\$ 355.00
<input type="checkbox"/> A-Well (M-F)	\$ 300.00	\$ 355.00
<input type="checkbox"/> B-Well (M-F)	\$ 300.00	\$ 355.00
<input type="checkbox"/> C-Well (M-F)	\$ 300.00	\$ 355.00
<input type="checkbox"/> Advanced (Wednesday)	\$ 150.00	\$ 180.00

CREDIT CARD PAYMENT

Credit Card Type: _____ Visa _____ MC _____ AmEx _____ Discover

Name on Credit Card: _____

Credit Card Number: _____

Exp Date: Month _____ Year _____ Security Code from back of Card _____

Cardholder's Signature: _____

If cardholder is other than attendee, what email address should the CC receipt be sent to? _____

To ensure that you receive the emailed receipt, please add cindy@ncwoa.com to your email address book.

PLEASE SEND APPLICATION AND PAYMENT TO:

Cindy Gall, NCWOA Comptroller
 PO Box 4519
 Emerald Isle, NC 28594
 Phone: 252-764-2094 ext. 2
 Fax: 252-764-2095
 Email: cindy@ncwoa.com

Credit Card Payments CANNOT
 be processed over the phone.

NCWOA USE: Amount: _____ CK# _____ E S Processed: _____



NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

Membership Application

MEMBERSHIP APPLICATION – 2017 ANNUAL DUES ARE \$25.00

2018 ANNUAL DUES ARE \$40.00

First Name: _____ Middle Initial: _____ Last Name: _____

Nickname: _____ Social Security #: XXX-XX-_____ If Renewal, what is your NCWOA Member #: _____

YOUR Individual Operator Certification #: (Issued by NCWTFOCB) _____

Certificate(s) Held:

A-Surface B-Surface C-Surface A-Well B-Well C-Well D-Well

A-Dist B-Dist C-Dist D-Dist Cross-Connection

None Yet You are not an Operator & do not plan to become Certified.

PLEASE SELECT YOUR PREFERRED ADDRESS (This is where confirmations & membership info will be sent.)

Home Address: _____

City: _____ State _____ Zip _____ County: _____

Employer Name: _____

MAILING Address: _____

City: _____ State _____ Zip _____ County: _____

Work Phone : _____ Ext: _____ Fax: _____

Home Phone: _____ Cell Phone: _____

Email Address: _____

How would you like to receive your issues of Go With The Flow? Postal Delivery _____ OR Email _____

How would you like to receive your Section Meeting notices? Postal Delivery _____ OR Email _____

NOTE: Memberships are based upon a calendar year. Membership cards will be mailed with receipt. These cards will contain your name, membership number, and membership expiration date.

NOTE: Please make checks payable to: **North Carolina Waterworks Operators Association** or **NCWOA**. We do NOT accept Purchase Orders.

CREDIT CARD PAYMENT

Credit Card Type: Visa MC AmEx Discover

Name on Credit Card: _____

Credit Card Number: _____

Exp Date: Month _____ Year _____ Security Code from back of Card _____

Cardholder's Signature: _____

PLEASE SEND APPLICATION AND PAYMENT TO:

Cindy Gall, NCWOA Comptroller
PO Box 4519
Emerald Isle, NC 28594
Phone: 252-764-2094 ext. 2
Fax: 252-764-2095
Email: cindy@ncwoa.com

.....
: Credit Card Payments CANNOT :
: be processed over the phone. :
.....

If cardholder is other than member, what email address should the CC receipt be sent to? _____

To ensure that you receive the emailed receipt, please add cindy@ncwoa.com to your email address book.



HOTEL ACCOMMODATIONS

SPECIAL NOTE: The host hotel will now be the Holiday Inn Express & Suites. A block of rooms has been reserved in the name

of the NC Waterworks Operators Association until **September 5, 2017**. **When you make your reservations be sure to request group code WOA or group title NC Waterworks Operators Association.** This facility is also the site for the Wednesday Night "Brain Break" with Door Prizes and the Tuesday night review session.

Holiday Inn Express & Suites
3741 Thistledown Drive
Raleigh, NC 27606
Phone: 919-854-0001

Limited Number of Rooms Blocked – Special Group Rates
\$ 99.99 Single or Double Rate (Breakfast is included)
+ \$ 12.62 12.75% Room Tax
\$ 112.74 Single or Double Rate / Night

MEETING SITES

Advanced Day, Well & Surface classes and their lunches will be held at the McKimmon Center, which is located near the main NCSU campus at the corner of Western Boulevard and Gorman Street in Raleigh (919-515-2277). Maps will be mailed to each individual registered along with a confirmation/receipt letter.

OVERFLOW HOTEL

Holiday Inn Hotel and Suites Raleigh/Cary
5630 Dillard Drive
Cary, NC 27518
Phone: 919-851-1220 (*mention NCWOA Group*)

Limited Number of Rooms Blocked – Special Group Rates
\$ 95.00 Single or Double Rate (*will include up to 2 breakfast coupons per night of stay per room*)
+ \$ 12.11 12.75% Room Tax
\$ 107.11 Single or Double Rate / Night

AWARDS BANQUET LUNCHEON

The Awards Banquet Luncheon and Business Meeting will be held on Wednesday, September 27, 2017. The festivities will begin at 12:05pm at the McKimmon Center. There will be door prizes given away. Please make plans to attend and congratulate your fellow operators for a job well done!

REGISTRATION INSTRUCTIONS AND REQUIREMENTS

SCHOOL REGISTRATION FORM

To be completed by ALL students. Please complete one form per person. Please print or type. This form must be accompanied by a payment for the correct registration fee. Please make checks or money orders payable to **NCWOA or North Carolina Waterworks Operators Association**. We do not accept Purchase Orders. Please be sure to enter all information requested on the form. Incomplete forms will delay your registration or may be returned. All attendees must be pre-registered and paid in advance.

RECEIPT/CONFIRMATION OF REGISTRATION

All participants who pre-register will receive a receipt/confirmation in the mail by about September 21. This acknowledgement will include specific information on the site and a map.

CERTIFICATES OF ATTENDANCE OR COMPLETION

At the conclusion of the event all participants, who have attended at least 75% of their classes, will receive a Certificate of Attendance. These certificates will document attendance for professional growth contact hour requirements and/or successful class completion. Participants must pick up their own certificate at the conclusion of the event. No certificates will be given out early, to another individual, or mailed.

REFUNDS

Refunds will be issued (minus a \$25 administrative fee), if the refund is requested, in writing, by September 18, 2017. Substitutions may be made. Please inform us as soon as possible of substitutions so appropriate certificates of attendance may be generated.

SOCIAL SECURITY NUMBERS (SS#)

NCWOA's seminar attendance/contact hour tracking program uses the last 4 digits of your Social Security number as a unique identification number for our use only. If you will not allow us to use your SS#, please indicate "refused" on the SS# line. While we will be happy to register you, we cannot guarantee accurate tracking of your attendance at these events.

MEMBER/NON-MEMBER STATUS

Only individuals who are current members of NCWOA are eligible for the member rate. Please refer to your membership card for your member #. We will verify registrations for eligibility and will return those who pay the incorrect amount. If you would like to become a member, please complete the membership application in this brochure and return with payment.

Surface Water Systems - Book Order Form

Circle Material You Wish to Order

Form not valid after December 31, 2017

A, B, or C Surface Study Material (PART I)	NCWOA Member Price	Non-Member Price
Water Treatment Plant Operator Vol. 1 (6th Edition)	Quantity _____ x \$61.00	Quantity _____ x \$66.00
Water Treatment Plant Operator Vol. 2 (6th Edition)	Quantity _____ x \$61.00	Quantity _____ x \$66.00
Surface "Needs to Know" - A Study Outline for Water Plant Operators (2015)	Quantity _____ x \$6.00	Quantity _____ x \$11.00
Rules Governing Public Water Supplies (Green Book) (2016)	Quantity _____ x \$14.00	Quantity _____ x \$19.00
Rules Governing Water Treatment Facility Operators (Blue Book) (2/12)	Quantity _____ x \$4.00	Quantity _____ x \$9.00
Entire set that includes all of the above needed for the A, B, or C Surface Exam	Quantity _____ x \$146.00	Quantity _____ x \$171.00

Lab Procedures Books (Not Required for A-C Surface Exams) (PART II)	NCWOA Member Price	Non-Member Price
Basic Lab Procedures for Waterworks (02/07)	Quantity _____ x \$13.00	Quantity _____ x \$18.00
Bacteriological Methods for the Analysis of Drinking Water (2011)	Quantity _____ x \$51.00	Quantity _____ x \$56.00

Subtotal: _____

ADD Shipping and Handling Charges: (Book prices include NC Sales Tax.)	
For Book Order Totals	ADD (Check the option that applies to your order)
Up to \$20.00	_____ \$6.00
\$20.01 - \$40.00	_____ \$8.00
\$40.01 - \$60.00	_____ \$9.00
\$60.01 - \$80.00	_____ \$10.00
\$80.01 - \$100.00	_____ \$11.00
\$100.01 & Over	_____ Add 12%

Total Amount Due (book charges + S/H charges) \$ _____

Employee Name: _____ NCWOA Member #: _____

Employer Name: _____

Address to **MAIL** Books To: _____

City, State, Zip Code: _____ County: _____

Phone: _____

Note: Please make checks payable to **North Carolina Waterworks Operators Association** or **NCWOA**. Most book orders will be mailed to you within 3 business days from the time of receipt by NCWOA. If you have not received your order within 10 days of the date you mailed your request, please contact me at the number listed below. **Payment Must Be Made in Full Before Books Are Shipped. No Purchase Orders accepted.**

CREDIT CARD PAYMENT

Credit Card Type: _____ Visa _____ MC _____ AmEx _____ Discover

Name on Credit Card: _____

Credit Card Number: _____

Exp Date: Month _____ Year _____ Security Code from back of Card _____

Cardholder's Signature: _____

Credit Card
 Payments
 CANNOT be
 processed over
 the phone.

PLEASE SEND ORDER FORM AND PAYMENT TO:

Cindy Gall, NCWOA Comptroller
 PO Box 4519, Emerald Isle, NC 28594
 Phone: 252-764-2094 ext. 2
 Fax: 252-764-2095
 Email: cindy@ncwoa.com

If the cardholder is other than the person listed above, to what email address should the CC receipt be sent? _____
 To ensure that you receive the emailed receipt, please add cindy@ncwoa.com to your email address book.

NCWOA USE: Rsc'd: _____ CK Amt: _____ #/By: _____ E S Sent: _____ M S

Well Water Systems - Book Order Form

Circle Material You Wish to Order

Form not valid after December 31, 2017

A, B, or C Well Study Material (PART I)	NCWOA Member Price	Non-Member Price
Water Treatment Plant Operator Vol. 2 (6th Edition)	Quantity _____ x \$61.00	Quantity _____ x \$66.00
Small Water System Operations & Maintenance (5th Edition)	Quantity _____ x \$61.00	Quantity _____ x \$66.00
Ground Water "Needs to Know" - A Certification Study Guide for Groundwater Systems (2015)	Quantity _____ x \$6.00	Quantity _____ x \$11.00
Rules Governing Public Water Supplies (Green Book) (2016)	Quantity _____ x \$14.00	Quantity _____ x \$19.00
Well Construction Standards (Red Book) (10/09)	Quantity _____ x \$6.00	Quantity _____ x \$11.00
Rules Governing Water Treatment Facility Operators (Blue Book) (2/12)	Quantity _____ x \$4.00	Quantity _____ x \$9.00
Entire set that includes all of the above needed for the A, B, or C Well Exam	Quantity _____ x \$152.00	Quantity _____ x \$182.00

Lab Procedures Books (PART II)	NCWOA Member Price	Non-Member Price
Basic Lab Procedures for Waterworks (02/07)	Quantity _____ x \$13.00	Quantity _____ x \$18.00
Bacteriological Methods for the Analysis of Drinking Water (2011)	Quantity _____ x \$51.00	Quantity _____ x \$56.00

Subtotal: _____

ADD Shipping and Handling Charges: (Book prices include NC Sales Tax.)	
For Book Order Totals	ADD (Check the option that applies to your order)
Up to \$20.00	_____ \$6.00
\$20.01 - \$40.00	_____ \$8.00
\$40.01 - \$60.00	_____ \$9.00
\$60.01 - \$80.00	_____ \$10.00
\$80.01 - \$100.00	_____ \$11.00
\$100.01 & Over	_____ Add 12%

Total Amount Due (book charges + S/H charges) \$ _____

Employee Name: _____ NCWOA Member #: _____

Employer Name: _____

Address to **MAIL** Books To: _____

City, State, Zip Code: _____ County: _____

Phone: _____

Note: Please make checks payable to **North Carolina Waterworks Operators Association** or **NCWOA**. Most book orders will be mailed to you within 3 business days from the time of receipt by NCWOA. If you have not received your order within 10 days of the date you mailed your request, please contact me at the number listed below. **Payment Must Be Made in Full Before Books Are Shipped. No Purchase Orders Accepted.**

CREDIT CARD PAYMENT

Credit Card Type: ___ Visa ___ MC ___ AmEx ___ Discover

Name on Credit Card: _____

Credit Card Number: _____

Exp Date: Month _____ Year _____ Security Code from back of Card _____

Cardholder's Signature: _____

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 the phone.

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 PO Box 4519, Emerald Isle, NC 28594
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 Fax: 252-764-2095
 Email: cindy@ncwoa.com

If the cardholder is other than the person listed above, what email address should the CC receipt be sent to? _____
 To ensure that you receive the emailed receipt, please add cindy@ncwoa.com to your email address book.

NCWOA USE: Rsc'd: _____ CK Amt: _____ #/By: _____ E S Sent: _____ M S

NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

**Examination for Laboratory Analyst Certification
Water Bacteriology OR Water Process Control Chemistry**

OBJECTIVE: The North Carolina Waterworks Operators Association is sponsoring a voluntary certification program for laboratory analysts. Certification will be given in the area of water process control chemistry.

Upon completion of a written examination, the analyst will receive a certificate. The certificate must be renewed every five years.

Water Bacteriology Examination Content: The examination will cover sampling techniques, quality control and media, equipment and techniques used in the water bacteriology laboratory. Knowledge of the Multiple Tube Fermentation Procedure, Membrane Filter Procedure, Colilert Procedure and Standard Plate Count Procedure is required.

Water Process Control Chemistry Examination Content: The examination will include safety, sampling techniques, conductivity, hardness, turbidity, chlorine, and selective electrode and spectrophotometric techniques.

EXAMINATION DATE: Thursday, September 28, 2017 at 6:00 p.m.

PLACE: Holiday Inn Express & Suites (*Room to be announced*)

APPLICATION DEADLINE: September 15, 2017

FEE: \$20.00 (*Payable at time of the examination.*) Payment must be made by check or money order to: North Carolina Waterworks Operators Association (NCWOA) - NO CASH WILL BE ACCEPTED.

HOW TO APPLY: Each applicant must complete the application below, detach and send to:

Michelle Rufus
Environmental Sciences Section
PO Box 28047
Raleigh, NC 27611-8047
Phone #: (919) 733-7308
Fax #: (919) 715-8611

DO NOT SEND FEE WITH APPLICATION

All applications will be accepted. No acceptance notification will be mailed. For additional information, contact Chris Goforth at (919) 807-8871.

DETACH HERE AND RETURN

Name: _____

Preferred Mailing Address: _____

City, State, Zip Code: _____

Employer: _____

Address: _____
Street or PO City State Zip Code

Please mark the examination you would like to take: () Bacteriology () Process Control Chemistry

Applicants Signature: _____

Date: _____

Heather Cagle, Administrator
NC Waterworks Operators Association
PO Box 4519
Emerald Isle, NC 28594
www.ncwoa.com

NON PROFIT
U.S. POSTAGE
PAID
Mailed from
Zip Code 56601
Permit No 71



NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

78th Annual North Carolina Waterworks Operators School
September 25-29, 2017

Advanced Day Wednesday, September 27, 2017

AWARDS BANQUET LUNCHEON and ANNUAL BUSINESS MEETING
Wednesday, September 27, 2017 from 12:05pm - 1:45pm at the McKimmon Center

We Appreciate Our Corporate Sponsors! Look to them first for all of your industry needs.



Jack Moore & Associates, Inc.

