

Operator Certification Bulletin | May 2011

Drinking Water and Wastewater Operator Certification News

For more news or information please visit
www.ontario.ca/drinkingwater or www.owwco.ca

WHAT'S NEW?

New Canadian Standardized Exams

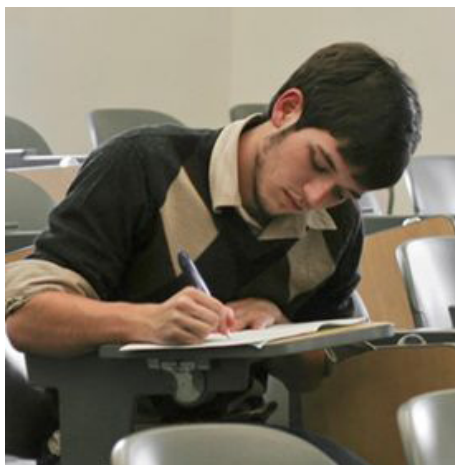
Over the next two to three years, Ontario's exams will change. Ontario will be adopting the Canadian Standardized Operator Certification exams, which are currently used in most provinces in Canada.

How are Canadian Standardized Exams different?

The Canadian Standardized Exams are based on Association of Boards of Certification (ABC) questions, similar to Ontario's current exams. Teams of operators from across Canada are used to review and choose the questions for each exam. The Ministry of the Environment further reviews the questions and may make minor adjustments to reflect unique differences between Ontario and other provinces. Although actual exam questions will change, the overall content and difficulty level of the exams will not.

Why is Ontario changing the exams?

The change will ensure greater standardization of exams across Canada. It also allows each province, with the support of exam experts at ABC, to pool their resources to develop the best exams possible.



Finally, this change is expected to improve how we ensure that our exams continue to be effective and relevant in the years to come.

When is this happening?

The wastewater collection exams were the first series of exams to be changed on April 1, 2011. To accurately reflect the content of the new Wastewater Collection exams, new Need-to-Know documents have been posted at www.owwco.ca. Wastewater treatment and drinking water exams will follow next year.

More information is available on OWWCO's website at www.owwco.ca under the News/Events heading.

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- Ontario Certification Working Group Updates
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New Statutory Standard of Care for Municipal Councillors

“Given that the safety of drinking water is essential for public health, those who discharge the oversight responsibilities of the municipality should be held to a statutory standard of care.” – Justice Dennis O’Connor, 2002, Report of the Walkerton Inquiry.

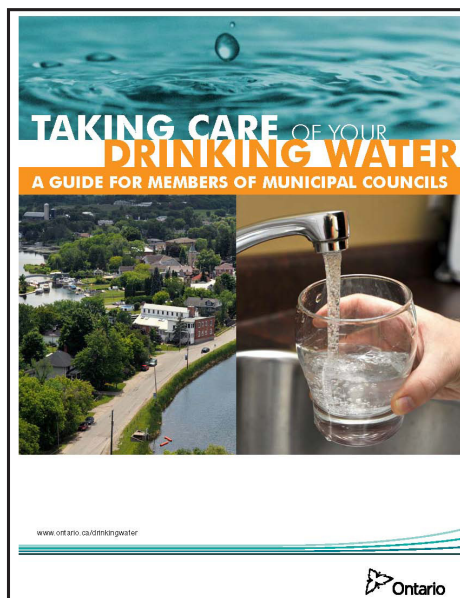
From governments to drinking water and wastewater operators, keeping Ontario’s drinking water safe is the collective responsibility of many partners. Over 80 percent of Ontarians get their drinking water from municipal systems, and municipalities are to be commended for their efforts to ensuring safe drinking water to their communities.

The Safe Drinking Water Act, 2002 includes a statutory standard of care for individuals who have oversight responsibilities for municipal drinking water systems, which comes into force as of January 1, 2013 and can extend to municipal councillors. While municipal councillors are not required to be experts in drinking water

operations, they are required to exercise a level of care, diligence and skill with regard to a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation.

To support municipal councillors in this role, the Ministry of the Environment has published a guide called **“Taking Care of Your Drinking Water”**, which can be downloaded from the ministry’s Drinking Water Ontario website at www.ontario.ca/drinkingwater. It helps answer questions about the statutory standard of care and provides advice on how to become better informed about drinking water. In addition, the Walkerton Clean Water Centre offers training on the Statutory Standard of Care. Course offerings at various loca-

tions across the province are posted on their site at www.wcwc.ca.



Guidance Manual for Optimization of Sewage Works

Prepared by C. Jefferson, Executive Director, Water Environment Association of Ontario (WEAO)

Over the past 20 years, designers, owners and operators of sewage works recognized that there were opportunities to optimize these facilities to reduce the capital cost of expansions, improve the effluent quality produced by the works, and reduce the costs of energy, chemicals, sludge disposal and other operational requirements.

Environment Canada, the Ontario Ministry of the Environment and the Water Environment Association of Ontario (WEAO) developed a Guidance Manual for Optimization of Sewage Works for owners, managers, designers, process engineers and operators. It describes specific monitoring, testing, and optimization approaches that can be used to evaluate and optimize all the components of the sewage works, including the sewage collection system, the liquid train treatment processes, and the solids process treatment train.

Specific chapters in the manual are dedicated to:

- Explaining the purpose and typical performance of each unit process or component of sewage works;
- Common design or operational problems;
- Describing techniques to diagnose the cause of poor performance, improve performance, increase capacity or reduce costs;
- ...and more.

The guidance manual also contains case history examples of sewage works optimization and their results, as well as examples of approaches used to optimize individual unit processes and the benefits that were realized.

The guidance manual can be used to help set objectives for the optimization program, develop a detailed work plan for the project and report findings.

To obtain a copy, please visit the WEAO website at www.weao.org.

OWWCO Operator Survey Results

Last November, Operators were invited to participate in OWWCO's anonymous online survey to provide their views on customer service, OWWCO's website and access to program information. Over 520 operators responded! Below are the average scores for some of the questions that were asked:

Topic	Average Response
Professionalism of OWWCO staff members	Excellent
Response time for inquiries	Good
Clarity of responses to inquiries	Good
Rating of overall quality of relationship with OWWCO staff	Good
Processing timelines for upgrades, renewals and exams	Good

In addition, survey results revealed that 93% of operators have visited OWWCO's website, and 90% of them found the information they needed. Respondents also provided some general feedback about the site for consideration, such as:

- Inclusion of flowcharts
- Additional questions and answers that are easy to understand
- More information about requirements for licence renewals and upgrades
- Specific section for small drinking water and wastewater operations

A special thanks to the Operators who participated in the survey. Your input will help OWWCO to continue to improve their services.

DID YOU KNOW...?

Water Treatment Exams: What's Tripping up our Operators?

Reprinted from the Certifier, Winter 2009, by permission of the Association of Boards of Certification

Since 1972, the Association of Boards of Certification (ABC) has been working to protect public health and the environment by advancing the quality and integrity of environmental certification programs. This includes almost 100 certifying authorities representing more than 40 states, nine Canadian provinces as well as several international programs.

ABC's expertise includes over 25 years of experience in exam-related services. They offer testing solutions for both voluntary and regulatory environmental certification programs.

Poor Performance Topics

In 2009, ABC completed a statistical review of Water Treatment certification exams. This analysis revealed that operators are having the most difficulty with questions on regulations, plant process control laboratory analysis, math, and filtration.

Within the regulatory area of the exam, topics that prove most difficult for operators are monitoring and analytical requirements, filtration and disinfection, and control of lead and copper. Within the math area, process related math operations, such as chlorine disinfection, filtration and fluoridation are where operators had the most difficulty.

Resources to Help with Exam Preparation

Preparation is the key to getting ready for a certification exam. ABC's Need-to-Know (NTK) document includes the following:

- an overview of the exam
- job tasks that will be covered
- the breakdown of the percentage of questions by area on the exam, and
- the reference material that was used to develop the exams.

Approved reference manuals that are used by subject matter experts when developing ABC's exam questions are listed in the NTK document. These are also good resources to review in preparation for exams.

In addition to the NTK document and exam references, other free resources are available on ABC's website (www.abccert.org), such as ABC's Formula/Conversion Tables and sample questions. These tables and sample questions can help operators become familiar with the formulas and conversions on the exam, as well as the exam format.

Factors that impact operator exam performance are the certification program requirements, such as mandatory training

and pre-qualifying candidates to sit for the exam. Requirements vary from program to program, which likely contribute to the variation in passing rates. Certification program members of ABC can view program information using the ABC Online Certification Database that is available by logging on to the members only page of ABC's website.

Recent Job Task Analysis Surveys

ABC recently completed Job Task Analysis (JTA) surveys for its water treatment, wastewater treatment, collection and

distribution exam disciplines. During a JTA, tasks are identified and the criticality of those tasks is determined. JTAs help determine the knowledge, skills, abilities, and other characteristics that are necessary to effectively perform these jobs. The results of the JTA will serve as the basis for the 2011 ABC Standardized examination and NTK criteria.

To learn more about the Association of Boards of Certification, visit www.abccert.org.

Ontario Certification Working Group – Topics of Recent Meeting

The operator Certification Working Group (OCWG) is a team of regional representatives from various organizations in the water and wastewater industry. They help to ensure that certification program requirements are communicated to operators, operating authorities and other organizations. OCWG members also offer expertise to the Ministry on issues related to the certification program. In addition, they table operators' concerns at their quarterly meetings for discussion.

OCWG's last meeting was in April, 2011. Some of the key issues they discussed were:

- Changes to the Wastewater Collection exams
- Average pass/fail rates of operator exams
- New courses offered at the Walkerton Clean Water Centre
- Administrative improvements for processing renewals
- Online OIT exams at municipal sites

For information about previous OCWG meetings, visit OWWCO's website and follow the link under Resources.

Meet Gina Adams, Technical Training Advisor with Halton Region's Public Works Department

Gina has been an active member of the Ontario Certification Working Group (OCWG) since 2008. She also serves on the Water and Wastewater Training and Certification Expert Panel of the Ontario Municipal CAOs Benchmarking Initiative (OMBI). Gina plays an important role in keeping the working group informed about OMBI initiatives related to water and wastewater certification and training.

OMBI's Water and Wastewater Training & Certification Expert Panel is a voluntary collaboration of various Municipal Training Advisors who work together to share best practices and information about training issues related Ontario water and wastewater operators. The Technical Training Advisor representatives do this by:

- Identifying, analysing and collecting information about operator training initiatives from each of the represented municipalities;
- Sharing different practices, policies and insights with MOE for operator training and certification service improvements; and
- Sharing information and tools to enhance training and

certification initiatives for water and wastewater operator professionals of municipal governments.

"I value the commitment and dedication of my technical training colleagues, and their important role in the training and certification of water and wastewater operators in the environmental municipal profession."

– Gina Adams.



Front row right to left: Anna Di Stefano (City of Markham), **Gina Adams** (Region of Halton)

Back row right to left: Steve Keller (City of Toronto), Dominic Cutulle (Region of York), Liz Weiss (Region of Peel), Carrie Brunet (Region of Niagara), Yvonne Tindall (Region of Durham), Lilly Snobelen (Municipality of Chatham-Kent), Katharine Kmack (Ministry of the Environment)

Innovation at the Thornbury Water Treatment Plant: Combining clean water technology with land use planning and waste minimization

Over the past several years, the Town of the Blue Mountains has experienced – and continues to enjoy – considerable growth. Until 2002, the Thornbury Water Treatment Plant used conventional filtration. A projected increase in population, combined with turbidity problems that surfaced, resulted in a need for a system upgrade.

The town decided on an innovative membrane microfiltration system featuring advanced technology for water filtration including: intake, low lift pumping facilities, three membrane trains, a clearwell for storage, high lift pumps, gas chlorine disinfection, a backwash wastewater system and ultraviolet disinfection.

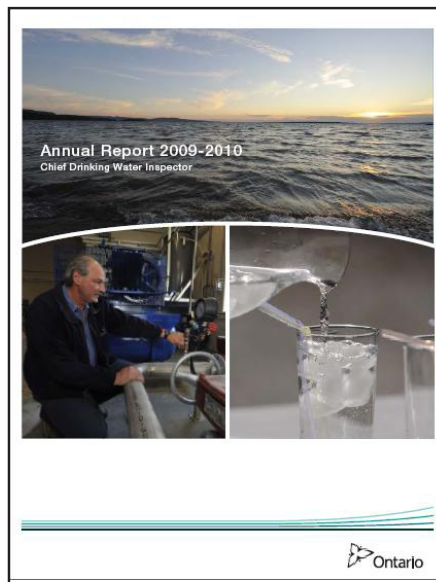
This solution had both economic and environmental benefits. The town was able to build the new system onto their existing facility's footprint. The new system also

allows Thornbury to expand its filtration operations as the population continues to grow. In addition, their old filtration system was installed in the Hanover Water Treatment Plant.

According to John Caswell, Manager of Water & Wastewater Services at the Town of the Blue Mountains, "The water operators deserve all the credit for their efforts working with the general contractor while the new system was installed. Their dedication and responsiveness was unbelievable."

Read the province's **Chief Drinking Water Inspector's annual report** for local stories such as this one, and get in-depth information on the performance of Ontario's drinking water systems and

licensed laboratories. Visit MOE's Drinking Water Ontario website at www.ontario.ca/drinkingwater.



MOE & OWWCO Connect with Ontario Immigrant Agencies



The Ontario Council of Agencies Serving Immigrants (OCASI) held its 28th professional development conference last November. Staff from Ontario's immigrant and refugee-serving agencies came together to exchange information and expertise, and learn about new approaches for delivering innovative and effective programs for new Ontarians.

Some of the key themes for this conference were related to existing gender-based challenges in settlement, such as domestic violence, women's rights, and Ontario's and Canadian laws. Specialized services for newcomers living with disabilities were also a main focus. Employment services for immigrants was another important component of the conference, specifically in the areas of rebuilding professional lives, fair employment, job searching and career opportunities.

For the first time, the Ministry of the Environment (MOE) and the Ontario Water and Wastewater Certification Office (OWWCO) took part and showcased career opportunities in the water sector for newcomers, while promoting the high quality of Ontario's tap water.

MOE/OWWCO's information session on Career Opportunities in the Water/Wastewater Industry was a sell-out. Attendees were highly engaged and keen on learning more about job opportunities and the requirements to become certified operators. Many of them approached the presenters afterwards to ask additional questions and learn about their personal experiences. MOE/OWWCO's display table was also a success, generating a lot of interest and dialogue among attendees.

This was the first joint MOE/OWWCO outreach effort to the immigrant community through front-line settlement staff, and it was a resounding success. We look forward to participating in future OCASI conferences, and building stronger partnerships with immigration agencies and their settlement workers.

Reaching out to Youth on World Water Day at the Royal Ontario Museum (ROM)

The Ministry of the Environment hosted an activities table at the Royal Ontario Museum during the March break, to complement the ROM's new water exhibit.

Enthusiastic visitors dropped by to learn about Ontario's drinking water through hands-on activities using a model aquifer, samples of water pipes and mains and printed materials for children, youth and adults. The booth was staffed by a Ministry of the Environment lab inspector, a student from the engineering internship program, a certification officer and representatives from Durham College. Approximately 47,000 people attended the event during the March break.

In addition to educating youth and adults about our drinking water, a separate booth was set up to showcase careers in water during the Youth Summit held on World Water Day. Approximately 400 high school students visited



Make a Difference

Choose a Career in Water

A career as a water professional can keep Ontario's water safe for future generations and help provide solutions to the millions of people around the world without access to safe water.

Can you picture yourself as a:

- Engineer?
- Hydrologist?
- Conservation Officer?
- Water/Wastewater Facility Operator?
- Researcher/ Scientist?
- Lab Technician?

These and other careers in water are waiting for you!

For more information on careers in water, visit:

- Ontario Ministry of the Environment Drinking Water Ontario (search for youth) – www.ontario.ca/drinkingwater
- Water Environment Association of Ontario – www.weao.org
- Ontario Water Works Association – www.owwa.com (look under committees/students)

 Ontario

the booth during the Youth Summit to inquire about various career and educational programs related to the water industry.

Protecting our Water Sources for Future Generations: What are we doing about it?

How fortunate are we to have one-third of the earth's fresh water within and along our borders? Did you know our Great Lakes are the largest system of fresh surface water in the world?

As drinking water operators, you play a big part in helping protect our precious water for future generations. As you may already know, on average Ontarians use 260 litres of water each day – twice as much as countries like Germany and the U.K. While we are blessed with such an abundance of safe and reliable water, we should never take this resource for granted.

Ontario's drinking water safety net is an extensive network of safeguards and oversight measures to protect drinking water from source-to-tap. It begins with the Clean Water Act, aimed at protecting the sources of our municipal drinking water systems. Next, the Safe Drinking Water Act and its regulations provide an extensive system of safeguards to ensure our high quality tap water is among the best protected, tested and treated in the world. Did you know that over 99 per cent of the drinking water quality test results meet Ontario's health-based standards?

A key step in this source-to-tap framework is the (current) development of source protection plans. There are 19 source protection committees across Ontario, which consist of over 300 locally-recruited members who represent agricultural, commercial and industrial organizations, small businesses, environmental groups and the general

public. Numerous operators or plant managers also serve as municipal representatives on these committees.

Part of the discussion at these committees is about treatability since plants vary across the province, local expertise on how a plant may react to a spill or release could be helpful in developing source protection policies. In addition the operators and managers of systems are staff that the municipalities and public will turn to for advice on the safety of the water, as many may not understand the multiple barriers of which treatment is just one. Being informed to some degree on what is happening upstream will allow operators to better represent the entire water system from source to tap! As a result, as an operator or manager of a system, you may be interested in the work being done to protect your source of water – and you can help those upstream of your system.

These source protection plans will be based on each committee's (source water) assessment reports, which have all now been submitted to the Ministry of the Environment for review and approval. They contain science-based information that identifies threats to municipal drinking water sources. Source protection plans will include policies to address significant drinking water threats and protect drinking water supplies today and into the future.

The drinking water safety net has been further strengthened with the passing of the Water Opportunities and Water Conservation Act last November, and our ongoing

investment in new technologies. This act will help position Ontario as a leader in developing water technologies and services. Our expertise will become available to the world through the creation of the Water Technology Acceleration Project – a technology hub bringing together industry, academics and government to develop the sector and promote it abroad. Ontario's state-of-the-art technology, oversight and expertise will expand to cities and towns across the global community.

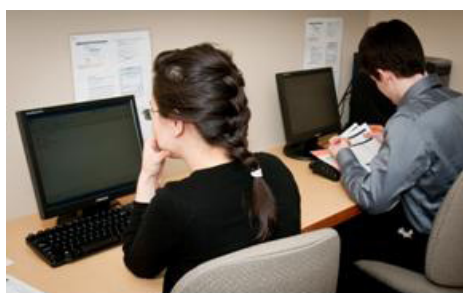
As you may know, Ontario is the first North American jurisdiction to require quality management systems in all

municipal residential drinking water operations through the Municipal Drinking Water Licensing Program. In a rapidly urbanizing province and world, this licensing program helps ensure clean, safe drinking water for consumers and is testament to Ontario's commitment to providing drinking water that is among the best protected in the world.

Protecting, conserving and ensuring safe, high quality drinking water is a major responsibility for all of us. Your role as Ontario's drinking water operators is critical, and for that you can be proud.

WHAT'S COMING UP?

Update on On-line Operator-in-Training Examinations



As you read in the last Operator Certification eBulletin, online OIT exams are making their debut this summer.

The examination department at the Ontario Water Wastewater Certification Office (OWWCO) is piloting a project to deliver supervised online OIT exams at municipal employer sites and community colleges. To date, approximately 50 applicants have

gone through the internet-based on-line examination process, which will continue until the end of May, 2011. Throughout the pilot project, feedback from applicants and invigilators is being collected and used to further improve delivery methods and instructions.

After the pilot testing is complete, the Ministry of the Environment will review the success of the project, and determine when on-line OIT exams will be rolled out to all municipal and community college locations.

On-line OIT exams offer many benefits to applicants, for example:

- Applicants are less likely to unintentionally choose the wrong answer, which often happens when

filling in bubble sheets with the paper and pencil method;

- On-line exams were developed to include a built-in feature that flags any unanswered questions before the applicant finalizes the exam;
- Applicants will receive their scores immediately after completing their exams.

Exam administration is also improved in many ways, including:

- Hundreds of exams will no longer be printed;
- Greater exam security;
- Completed exams will no longer need to be mailed back and forth from municipalities.

Look for on-line exams coming soon to a PC near you!

Walkerton Clean Water Centre Updates

WCWC is now coordinating MOE's Entry-level Drinking Water Operator Course and the Certification Renewal Course.

Effective July 1, 2011, WCWC will take over scheduling courses and processing registrations for these mandatory courses. Registrants will continue to access information on WCWC's website (www.wcwc.ca) but will be dealing directly with WCWC staff when registering.

WCWC acknowledges the excellent service provided by the staff at the University of Guelph Ridgetown Campus who

have coordinated these courses on behalf of WCWC since they were introduced.

Any questions related to the Entry-Level Drinking Water Operator course or Safeguarding Drinking Water Quality course (certificate renewal course) can be directed to WCWC at 866-515-0550 or inquiry@wcwc.ca.

Under Pressure – Working with Pressurized Water/Wastewater Equipment

Operators of water and wastewater systems routinely work around potentially hazardous chemicals and equipment.

Ensuring operator safety in such facilities is of major concern and recent fatalities have highlighted the need for safety training for operators who work with or around pressurized equipment.

The Ministry of the Environment requested WCWC to develop a training course that provides information on the procedures required to safely handle pressurized vessels and other types of equipment operating under pressure. This is in response to recommendations made by the Provincial Coroner's Office, following the investigation of fatalities that resulted from failures or misuse of pressurized equipment.

This course is designed to give participants a thorough understanding of potential hazards and the procedures that must be observed when working with or around pressurized equipment. The scope of the course has been broadened beyond pressurized water mains to include all pressurized equipment in both water and wastewater treatment systems. Registration information can be found on WCWC's website at www.wcwc.ca, by clicking on the Training tab and following the Course Registrations link.

Maintenancefest

WCWC is holding "Maintenancefest" – a special hands-on training session on August 30 and 31, 2011. Maintenancefest will involve a series of two-hour workshops where participants will rotate through their choice of work stations and complete various hands-on activities. This workshop will be eligible for CEUs. The testing component will involve performing the procedure. Tentative topics include:

1. Jar testing
2. Maintaining and calibrating – analyzers and sensors
3. Troubleshooting remote monitoring/SCADA
4. Filtration (membrane and conventional)
5. Maintaining and calibrating – common lab equipment and testing for chlorine, DOC, Turbidity, UV absorbance, colour
6. Maintaining and calibrating – chemical delivery pumps
7. Maintaining valves
8. Maintaining and repair – hydrants
9. Water main tapping
10. Flushing and dechlorination

REMINDERS

OWWCO's Website: Your One-stop Information Portal

Visit OWWCO's website for the latest news and information about: renewing and upgrading your license; exam schedules; becoming a certified drinking water operator-in-training, operator or water quality analyst; major upcoming events affecting operators, facilities and stakeholders; forms, guides and information and much, much more.

If you can't find what you're looking for, you can reach OWWCO by phone at (416) 231-2100, toll free 1-877-231-2122, or by email at info@owwco.ca on weekdays from 8:30 am to 5:00 pm.

Remember to subscribe to OWWCO's website to receive current certification news and information throughout the year. Learn about new developments and industry events as

they're announced. Be notified when the next edition of this newsletter is available.

Visit the OWWCO website today at www.owwco.ca.

Keep your WWOCS profile updated

Have you recently changed your mailing address or email? If so, remember to update your contact information in WWOCS (Water and Wastewater Operator Certification System). Notices about future Operator Certification eBulletins will be sent to your email address in WWOCS so please keep it current.

To get access to WWOCS, submit a completed request form to OWWCO by mail or fax. Copies of user guides for operators and trainers are also available on OWWCO's website. To learn more about WWOCS, visit www.owwco.ca.

The screenshot shows the WWOCS website interface. At the top, there's a navigation bar with links like Home, Facility, Exam, Certification, Course, Profile, Home, Register, Admin, and Logout. Below this, there's a section titled 'New Operator Profile' with a form. The form includes fields for: First name, Last name, Street number, Street suffix, Unit type, Number, Street name, Street type, Zip, City, Province, Postal code, Home phone, and Work phone. There are also dropdown menus for 'Country' and 'Province'. The form is designed for operators to update their contact information.