

OPERATOR DIGEST

FALL 2019 | NUMBER 142



Quarterly Newsletter of the
Environmental Operators
Certification Program – BC/Yukon

INNOVATION

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OPERATOR DIGEST

The **Operator Digest** is the official newsletter of the **Environmental Operators Certification Program**.

Submissions for publication in the Digest are welcome. Please email them to the EOCP office at eocp@eocp.ca

Changes of address, annual dues, Continuing Education Requirements, exam applications, as well as general inquiries about the program should be addressed to:

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OPERATOR PROFILE

Carrie Robb
Wastewater Operator



How did you become an Operator?

Becoming a wastewater Operator was a long time in the works for me. My career in the piping industry started at 18 installing irrigation systems. After a few years I moved onto plumbing and earned my red seal and proceeded to work as a plumber for 8 years. Wanting a change, I moved onto BCIT to get my diploma in Mechanical Engineering. Successfully completing the diploma, I worked as an engineering technologist designing piping systems for buildings. Unfortunately, I found I wasn't well suited to desk work and wanted to be on the move again, and this is when I finally became a wastewater collection Operator.

How long have you been an Operator?

I have been a wastewater collection Operator at Metro Vancouver for one year and 8 months.

What do you most enjoy about the work?

I enjoy the physical work and the ability to constantly learn new things about a city's infrastructure. You get to go into a lot of underground facilities and see parts of the city that most people don't which is pretty neat.

What has surprised you most about your job?

Two things, one, actually finding out what the job was, and secondly the interesting matter that gets caught up and removed from the pumps. When I applied for this position, I didn't really know what a Utility Service Operator was. It sounded very vague, but I knew I had all the skills listed on the posting, so I went ahead and applied. Since I got the job, I have thoroughly enjoyed learning all about what actually happens with all the city's wastewater

and seeing the sheer quantity of it (literally an 8-foot-wide rushing river of it)! On the second note, I have pulled all sorts of things out of the sewer pumps. Predominately un-flushables, such as 'flushable' wipes, dental floss, condoms, and feminine products; but also mardi gras beads, clothes, a brick, and once I found a 20 dollar bill tucked into the clog.

What do you wish other people knew about working as an Environmental Operator?

It's not nearly as dirty as you think it would be. We stay pretty clean and tidy considering that we work with sewers. That being said, the smell can be pretty awful at times, especially if the sewer has been sitting for a while. It took me a little while to get used to it. Cleaning grit chambers still gets me a bit though.

Can you tell me about any initiatives you have been involved with?

I recently joined our Joint Health and Safety Committee (JHCS) as the representative for our area. The JHSC is a committee where employees work with the employer to create and maintain a safe work environment. I look forward to maintaining the already high level of safety.

What are some opportunities regarding the field of Environmental Operators?

There is the new Lions Gate Wastewater Treatment plant being built which will be larger so there will be some more opportunities there for new wastewater treatment Operators.



What do you do when you aren't working?

I love rock climbing. During the Summer, I try to go up to Squamish for weekends to climb but otherwise I'm at the climbing gym once or twice weekly. I am also a huge nerd for video games,

Continued on page 8

MESSAGE FROM THE DIRECTORS AND STAFF



Mike Firlotte, Chair Kalpna Solanki, CEO

We are not quite sure where the year has gone - it is the end of October already! So, to recap, what have we been up to this past year?

We started off the year on a high note with our very first award. This international award, from the Associated Boards of Certification, was to recognize the trailblazing work of the EOCP - the award was for "Outstanding contribution toward establishing and advancing the certification of environmental professionals". This award would not have been possible without the ongoing work of the EOCP staff team, as well as the EOCP Board of Directors - the Board is elected by Operators and they volunteer their time to serve as Directors.

Our Customer Relationship Manager was updated to allow for invoicing. Annual dues invoices now go out automatically 45 days prior to the beginning of each year. The system then sends out invoices with accrued interest in the new year. **Please log in at <https://crm.eocp.ca/> and ensure the 'billing contact' information on your profile is correct!**

To ensure our stakeholders utilize our CRM to its full capabilities, we are holding webinars on a scheduled as well as request basis. Please check the Calendar of Events at <https://eocp.ca/events->

[calendar/](#) to see the webinar schedule.

Along with the CRM upgrades, it was timely to update our website, and we launched a brand-new user-friendly website. Please take a look around at: <https://eocp.ca/>

The usual tabs are there, and we've added a new one called 'Marketplace' where water/wastewater equipment for sale can be listed. You can check out the marketplace here: <https://eocp.ca/marketplace/>

We started collaborating with government stakeholders on a 'Compliance Project' to ensure that all water and wastewater facilities are appropriately classified and have at least one Operator certified at a level commensurate with the classification level of the facility.

Along with this, our classification models were embedded into our CRM, thus allowing the Chief Operator or Person in Charge to complete facility classifications online.

A review was conducted on exam accommodations provided by other credentialing organizations. Based on that, and the capacity of the EOCP, several accommodations are now available. This information is now available at the EOCP's website: <https://tinyurl.com/y54597n4>

The EOCP was asked for input on three different projects, and each can be accessed through the links below:

The BC Provincial Health Officer's Drinking Water Report evaluates drinking water protection activities in BC for fiscal years 2012-2013 through to 2016-2017, and is available at <https://tinyurl.com/y6tb4kpm>

The BC's Auditor General for Local Government (AGLG) information for booklets related to drinking water - 'Primer on Drinking Water Management in British Columbia' and 'Considerations for Local

Government Administrators-Integrated Drinking Water Management'. These booklets are available at <https://tinyurl.com/y6ed5rv9>

The Auditor General's Report on drinking water looked at whether the Ministry of Health and the Provincial Health Officer were taking adequate action to protect drinking water for British Columbians. The report is available at <https://tinyurl.com/y4z75o2p>

The Operator Peer Network Survey for Mentees is live until 31 October 2019 at <https://tinyurl.com/y3a8mbfw>. If you know of anyone who could benefit from having a mentor, please ask them to complete the survey.

We continued work as the founding partner of 'Operators Without Borders'. The organization has established a board of directors, ratified its constitution and bylaws, been registered as a non-profit, set up a website, and has sent a team to Belize. With the disaster in the Bahamas, it is expected that there will be a team heading there soon to provide assistance. You can access Operators Without Borders at www.operatorswithoutborders.org

SAVE THE DATE: Last but by no means least, we had tremendous feedback on our conference, #EOCP2018. We are now in the midst of coordinating #EOCP2020 so please save the date: 14-16 September 2020 - we expect this one to be even better, and bigger!

They say time flies when you're having fun! We've been busy, but we have really enjoyed working with you - so thank-you for all that you do to protect public health and the environment in BC and YK!

Mike Firlotte, Chair
Kalpna Solanki, Chief Executive Officer



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This water intake from Grafton Lake will continue to be used in the new system.

CHANGE IS UNDERWAY AT BOWEN ISLAND

A new multistage Cove Bay Water Treatment Plant is in the works after a successful pilot study using a Purifics ceramic ultrafiltration system.

by Jenni Green, P. Eng.

Bowen Island Municipality owns and operates 7 water systems, serving approximately 1,000 connections. About half of Bowen Island homes are served from a municipal water system, and the rest are supplied by private communal water systems or private wells.

The Cove Bay water system services about 600 users in Snug Cove, Deep Bay, Miller's Landing, Scarborough, Cates Hill, Valhalla, and Queen Charlotte Heights.

Water for the Cove Bay system is supplied by Grafton Lake. It is drawn from the lake through an intake about 10 metres deep and is then chlorinated prior to distribution to water users.

In 2014, the Vancouver Coastal Health Authority (VCHA) advised Bowen Island Municipality that the current system of chlorination of Cove Bay water is inadequate to address health concerns. Using a multi-step treatment process, the new water treatment plant will address issues required by VCHA, as well as other enhancements to provide the community with high quality water in accordance with the Guidelines for Canadian Drinking Water Quality (GCDWQ).

When complete, the new treatment plant will:

- Remove small particles of organic matter and minerals (turbidity), which is the current cause of discolouration and a contributor to the health risk
- Remove microscopic viruses and parasites
- Adjust the pH level of the water
- Remove manganese, which is a naturally occurring element
- Kill any coliforms and E. coli

On March 11, 2017, the Federal and Provincial government announced that Bowen Island Municipality's application for \$3,890,367 to help build a new Cove Bay Water treatment plant was approved.



Ceramic membrane filtration was identified as the preferred water treatment process to meet the needs and goals of the Municipality. As this is a relatively new technology for the municipal market, a 3-month pilot study was conducted to determine the effectiveness and efficiency of the chosen technology, particularly for the removal of organics and manganese in the water.

A Purifics ceramic ultrafiltration (CUF) system was used for the pilot study. The system came in a pre-packaged container, consisting of a high solid concentration tank, a circulating pump, CUF membrane unit, dosing system, a dewatering system (DeWRS), and a control panel that comes with an HMI screen. The pilot plant was set up at the south-east corner of Grafton Lake adjacent to Grafton Road and the existing dam. The lake water intake to the pilot system was established immediately above the existing municipal intake to the chlorination station to provide water representative of the Municipality's current water supply system.

The pilot plant was successful in providing proofs of treatment and operation for the removal of organics in Grafton Lake water. Organics removal was achieved by flocculation and filtration, which was confirmed by the improved %UVT from 75% pre-treatment to 97% post-treatment. Manganese removal by the system can be achieved with upstream pH adjustment to above 9.5 with Lime or Caustic Soda and oxidation with Potassium Permanganate or 12% Sodium Hypochlorite prior to filtration. This treatment method combined with a shallow lake water intake would help the future plant meet the GCDWQ, Aesthetic Objective for Manganese. Following the Manganese treatment, a secondary pH adjustment to lower pH back to 8 will be required in the full-scale plant to avoid calcification in the distribution system.

The CUF system was fully automated and requires minimum effort from the Operator to maintain a continuous operation. Treated water turbidity was also very stable and did not change due to any variation in raw water or treatment.

The new water treatment plant has recently gone through a pre-classification with EOCP. There is a U.V. filtration system that will be built as part of the plant, but it has not yet been determined if the system will be commissioned, as it may not be required to meet water quality objectives. If the U.V. system is commissioned, the plant will be a Level III water treatment facility. Without the U.V. system in operation, the plant will be classified as Level II water treatment facility.

The Municipality is planning to issue a tender package for the construction of the new plant later this year. Construction will follow, and the goal will be to have the facility operational in 2021.



Benefits of Ceramic Membrane Ultrafiltration Technology

- Accommodate facilities needing a small "footprint".
- Removes microscopic parasites from treated water by physically removing their cells.
- Effective at reducing colour. Coupled with filtration, the CUF process will provide extremely clear water
- that is suitable for disinfection by Ultraviolet light.
- Effective at removing disinfection by-product precursors. Once these substances have been removed, it is possible that less chlorine will be required for primary disinfection and the taste and odour of the finished water will be significantly improved.

Effect of ceramic membrane ultra-filtration on Cove Bay water.

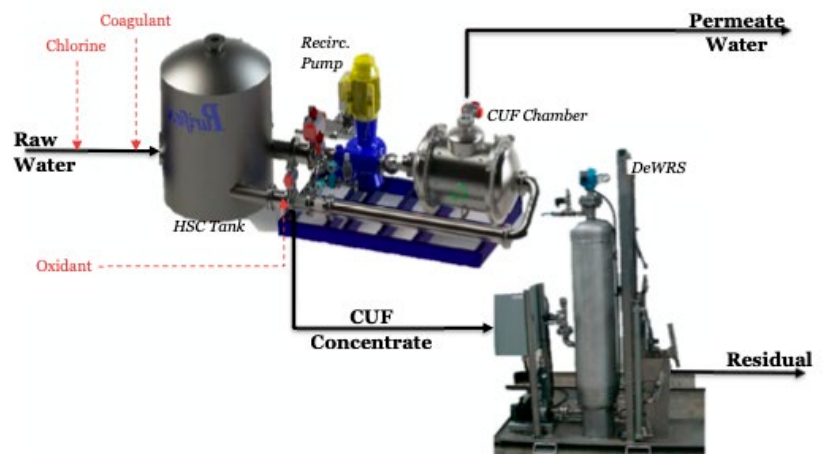


Figure 3 System Schematic of the Pilot Plant

WHO'S ON THE MOVE

Laith Furtat

Water Supply Specialist at Stantec.

Laith first gained an interest in water treatment and supply as a profession while spending a Summer working at the State Engineering University of Armenia in Yerevan. At the time, and about a decade after the collapse of the Soviet Union, most inhabitants of the Armenian capital received running water for only a few hours per day. In many towns and villages beyond the capital, water was available once per week and of poor quality. He observed similar conditions in his subsequent travels in the Middle East and parts of Latin America, deeply influencing his future career.

Back in North America, he pursued a Master's degree in Environmental Engineering from the University of New Hampshire (UNH), focusing on water treatment. He conducted his research project in UV treatment of wastewater during a work term at Trojan Technologies in London Ontario. He then continued his education, completing a PhD in chemical and biological engineering at the



University of British Columbia (UBC) based on fundamental research in the use of UV radiation for the destruction of chemical contaminants in drinking water.

While a graduate student at UNH and UBC, Laith worked as a teaching assistant for environmental engineering courses, often including a laboratory component. In the lab, his strong background in analytical chemistry and rigorous training in laboratory skills were combined with a passion for sharing knowledge. He learned that effective teaching is a two-way street, where students are actively engaged and inquisitive, and challenge

the instructor to adequately explain the subject at hand.

In addition to teaching and research, Laith has toured several dozen water and wastewater treatment plants in North America and Europe. A favourite part of such tours was meeting a keen water Operator, with whom he could engage in both theoretical and practical discussions.

His studies, observations and experiences have helped him be an effective educator of future water Operators. With classrooms and a lab located at the Kamloops Centre for Water Quality, the treatment plant for the City of Kamloops, Laith shared several weeks in 2017 with students of the Thompson Rivers University's Water & Wastewater Technology Program. Together they explored the subjects of coagulation chemistry and particle removal using raw water from the South Thompson. A series of hands-on experiments designed by Laith illustrated many fundamental, yet practical, concepts rarely addressed in most engineering courses.

His abilities as a researcher and writer earned him AWWA's academic achievement award in 2018, with second *Continued on page 8*

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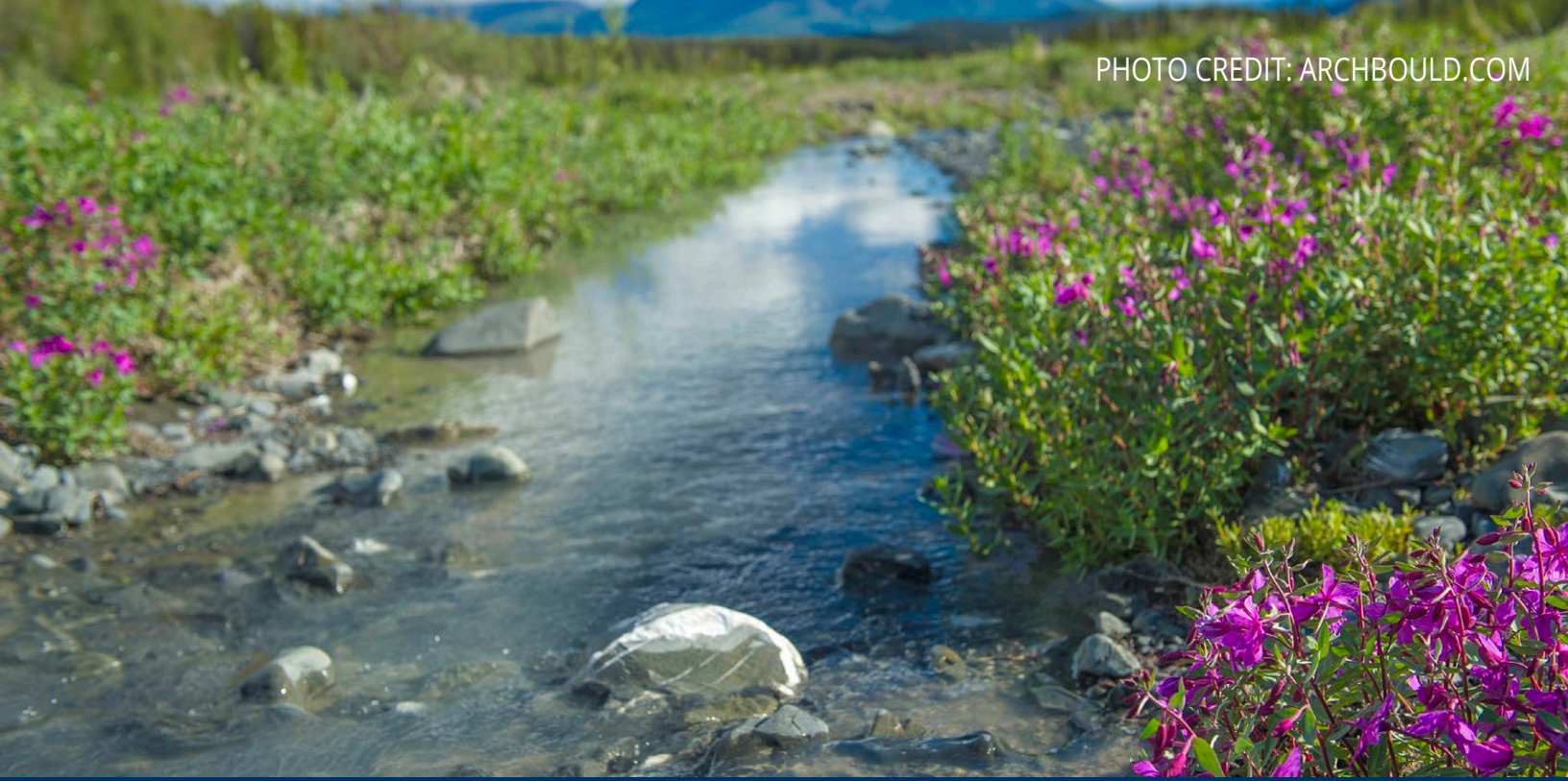


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place in the doctoral dissertation category. In 2018, he was also honored to be a guest speaker at the Water New Zealand conference, where he discussed the topic of residual chlorine. Laith has recently joined Stantec as a Water Supply Specialist.

Laith hopes to continue to work with and elevate the Operator profession, and looks forward to exchanging knowledge in future meetings and expanding his network of fellow water keepers.

board games, and books - I love all the Fallout and Borderlands video games. I recently wrote my first dungeons and dragons campaign and had with it my first time being a dungeon master. It was a ton of fun being able to create and shape an entire world for your players and then see how they interact with it. Book wise, I am currently reading a fantasy novel called 'A Little Hatred' by Joe Abercrombie.

What else can you tell us about working as an Environmental Operator? It's an interesting career because there is a lot to learn due to the cities' infrastructure that is constantly changing and upgrading to meet increased demands and upgrades in technology. I like that it's a career where I get to work with my hands and get to troubleshoot mechanical problems.

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THAT FOUR LETTER WORD EXAM!

by Kalpna Solanki, BSc MBA CPHI(C)

Recently, the EOCP has been getting feedback from Operators who took an 'exam prep course' and then subsequently failed their exam.

Whilst the exam preparation courses are important, there's a lot more that goes into preparing for an exam. To find out how Operators are preparing for exams, I reached out to Operators who had recently written exams and passed, and asked them about their 'secret to success'. As expected, their 'secret' was hard work, but here is what they actually said:

"Having graduated from the TRU wastewater program, I not only had the TRU textbooks, but the Sacramento State level one books to study from. I did devote a great deal of time to my studies and did have over five years of work experience to draw from."

"The exams were very easy if you have been continuously studying water and wastewater engineering material, biology and chemistry material related to the industry, and working in the industry. I have two years of direct experience and have toured more than 15 different facilities and worked in five different plants and communities. Study, learn, and get every certification offered to you, any chance you get. The more experience with various systems the better the Operator you will become."

"The Water Sifu podcast by Ty Witman was also helpful with understanding some theory and ideas. I did use the 'Need to Know' criteria and the ABC website to help study. I have a huge advantage as I work in 11 different water systems and that work experience really pays off. There was ample time to complete the exam - I took my time, I wrote the test, reviewed the test, and left after 2.5 hours. The main tip that I would offer is to know the material. It took me approximately 100 or more hours to do my courses and to complete the practice tests and review the materials. Flash cards are also a helpful study aid."

"I used the AWWA Grade 2 book, particularly the study questions. I also used the study questions in the Sacramento State WT Vol 2 book. I also used the WT exam prep from RoyCEU for practice questions. I also read over the information at the ABC website - the practice exam was good, but very short. I ran the math calculations in both metric and US measurements as a double check for my answers. I completed LOTS of practice questions."

"The preparation for all these exams was referring back to my Sacramento State University Water and Wastewater courses. I also looked back on the materials that I got from the Water Engineering Technology Program. I did refer to the 'Need to Know' criteria quite a bit to focus in on what I needed to study. What I personally do during these exams is go through and mark down any questions that I don't necessarily know right away, and move to the next question. Once I go through the test fully, I go back through and check my answers that I was confident with, and answer the marked down questions. Honestly, the single most helpful resource for these exams is the Sacramento State University Water and Wastewater courses. The knowledge I obtained from the Water Engineering Technology Program was critical as well."

So, how are Operators in BC/YK doing on the exams? They are doing better than those in most other jurisdictions that we have surveyed. Looking at the results for 2018, the pass rates for the various exams are:

Exam Category	Exam Source	% of Examinees that Passed
BWD	EOCP	63
SWS	EOCP	92
SWWS	EOCP	68
WT	ABC	91
WD	ABC	78
WWC	ABC	86
WWT	ABC	64

The EOCP monitors the exam pass/fail rates on an annual basis and investigates where there are anomalies. In addition, exams are reviewed on a regular basis to ensure questions are valid and the wording of the exams is not misleading.

Of the exams listed above, the EOCP's own exams will undergo a review in 2020. For the ABC exams, there will be an 'exam refresh' later this year (the Need to Know criteria will remain the same).

A number of resources have been mentioned by the Operators I spoke with and those are listed below, in addition to some other resources that I have found:

ABC: http://www.abccert.org/testing_services/2017StandardizedExams.asp

RoyCEU: <https://royceu.com/Public/Default.aspx>

Water Sifu: <https://www.thewatersifu.com/>

AWWA WSO Books: <https://www.awwa.org/Store/WSO-Water-Distribution-Grades-1--2/ProductDetail/55158821>

California State Math Help: <http://www.owp.csus.edu/courses/math-courses.php>

AWWA Exam Prep Book <https://www.awwa.org/Store/Water-Operator-Certification-Exam-Prep/ProductDetail/66247620>

AWWA Practice Tests and Exam Prep App: <https://awwaexamprep.com/>

EOCP Resources: <https://eocp.ca/certified-operators/preparing-for-your-exam/>

EXAM! continued on following page

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EXAM! continued from page 9

In addition to the resources above, some other tips on preparation:

1. Organize your study space – make sure you have space to spread out your books and notes, have enough light, a comfortable chair, and distractions are minimized;
2. Use flow charts and diagrams as visual aids as they are helpful when revising;
3. Make sure you have enough time to prepare for the exam – ‘cramming’ the night before will not work well;
4. Practice on sample exams to get used to the format of the questions and make sure allocate your time appropriately;
5. Explain your answers to others as this helps you get the concept clear in your head and recognize any areas that need more work;
6. Organize study groups with friends – arrange a study session with friends/colleagues as questions can be better answered;
7. Take regular breaks as this helps with long-term knowledge retention;
8. Snack on ‘brain food’ such as fish, nuts, seeds, yoghurt, and blueberries;
9. Plan your exam day – make sure you have enough time to get to the exam session, bring your ID, take a basic calculator (not a cell phone), and a pen/pencil for working out equations
10. Ensure you are hydrated prior to the exam – your brain needs water to work! Please note though that you cannot bring any liquids, including water, into the exam sessions.

As a reminder, and to emphasize the previous, every exam confirmation email now includes the following checklist:

Prior to the Exam:

- ☐ I have reviewed the resources to prepare for the 2017 Standardized Exam at http://www.abccert.org/testing_services/2017StandardizedExams.asp
- ☐ I have learned to navigate a web-based exam and reviewed sample questions at http://www.abccert.org/testing_services/2017StandardizedExams.asp

On the Day of the Exam:

- ☐ I have a piece of government issued photo ID with me (this is mandatory)
- ☐ I have a basic calculator (not a cell phone)
- ☐ I have a pen/pencil for working out equations

During the Exam:

- ☐ Food and/or drinks are not permitted
- ☐ Hats may not be worn
- ☐ Electronics (cell phones, smart watches, tablets, etc.) are not permitted

I, too, will have to complete a written exam in two weeks, followed by a practical exam a week later. It has been several years since I've had to write an exam, so the prospect is a bit intimidating! I have taken a course, and I have a reference book, but I know that I will also need to use tools to reinforce what I have learned – tools such as reviewing the reference book, highlighting relevant sections, reviewing class notes and highlighted sections of the reference book, using flash cards, reviewing online resources, and trying out sample exams. The course was great, but I know I will have to put in a lot of extra work to do well in the exam.

Good Luck – to me and you!

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FACILITY CLASSIFICATION UPDATES

by Jenni Green, P. Eng.

It's been just over two years since the launch of the Customer Relationship Manager (CRM). We hope that everyone is enjoying the new system. In conjunction with the CRM launch, facility classification models for level I-IV systems were also updated. Level I-IV facility classifications are now completed online through the CRM. Paper classification applications are no longer accepted.

Many facilities have already gone through the process of reclassifying online. Those facilities that haven't, will notice that their existing facility classifications will expire on 30 June 2020. In accordance with best practices from the Canadian Water and Wastewater Operators Certification Committee, facilities should be reclassified every 5 years, or following a major upgrade/process change.

Updating your facility classification is simple.

1. Log in to your profile at <https://crm.eocp.ca>
2. Check your Relationships: Ensure you are listed and accepted as the 'Chief Operator' or 'Person in Charge' for the facility you want to access
3. Find the pending application under 'Action Items, Applications'
4. Complete the form, upload your facility schematic, pay the re-classification fee, submit.

If you need assistance, please contact Jenni Green at jgreen@eocp.ca or 604.874.4784 x225.

You can also check out one of our monthly webinars on how to use the CRM. Details can be found on our website at <https://eocp.ca/events-calendar/>

EOCP Customer Relationship Manager

Home CRM Action Items Career Management Finance Reporting Settings Logged In: Green

JENNI OPERATOR [Edit Profile] [Action]

ADDRESS: 201-3833 Herring Drive, Burnaby, British Columbia, Canada V5C 6N5 | PHONE: 604-874-4784 | EMAIL: jenni.chancey@gmail.com | CERTIFICATION #: Not Applicable

PROFILE **RELATIONSHIPS** LEARNING STATUS ACCOUNT ACTION ITEMS

FACILITY	NAME	TYPE	TITLE	START DATE	END DATE	STATUS	CERTIFIED
Test WD Facility	Chief Operator	Chief Operator		11-02-2019		Accepted	
Test MWWT Facility	Chief Operator	OIT Operator		11-02-2019		Accepted	
City of Dawson Creek Wastewater Collection System	Operator			12-02-2019		Pending	
Test WWT Facility	Chief Operator	Utilities Manager		13-02-2019	26-02-2019	Inactive	
Test SWWS Facility	Chief Operator	Lead Hand		13-02-2019		Pending	
Test WWC Facility	Person in Charge	Chief Operator		20-02-2019		Accepted	
City of Kelowna Wastewater Treatment Facility	Operator	Acting Manager		18-03-2019		Pending	

EOCP Customer Relationship Manager

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PROFILE RELATIONSHIPS LEARNING STATUS ACCOUNT **ACTION ITEMS**

Active Applications

Applications	Name	Exam Type	Status	DATE STARTED	STATUS	EXAM RESULTS
Facility Class. Application	354906	Test MWWT Facility	Pending	03-07-2019 02:00:14	Pending	
Exam Application (WT)	348045	Jenni Operator	Pending	19-02-2019 03:48:26	Pending	
Facility Class. Application	338820	Test WD Facility	Pending	23-08-2018 09:48:19	Pending	
Facility Class. Application	336745	Test WWC Facility	Pending	12-07-2018 03:36:21	Pending	
Facility Class. Application	336744	Test MWWT Facility	Accepted	26-02-2019 12:58:17	Accepted	
Burien/Phar Application	220258	Test WWT Facility	Accepted	18-02-2019 00:09:04	Accepted	

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- Limited alarms

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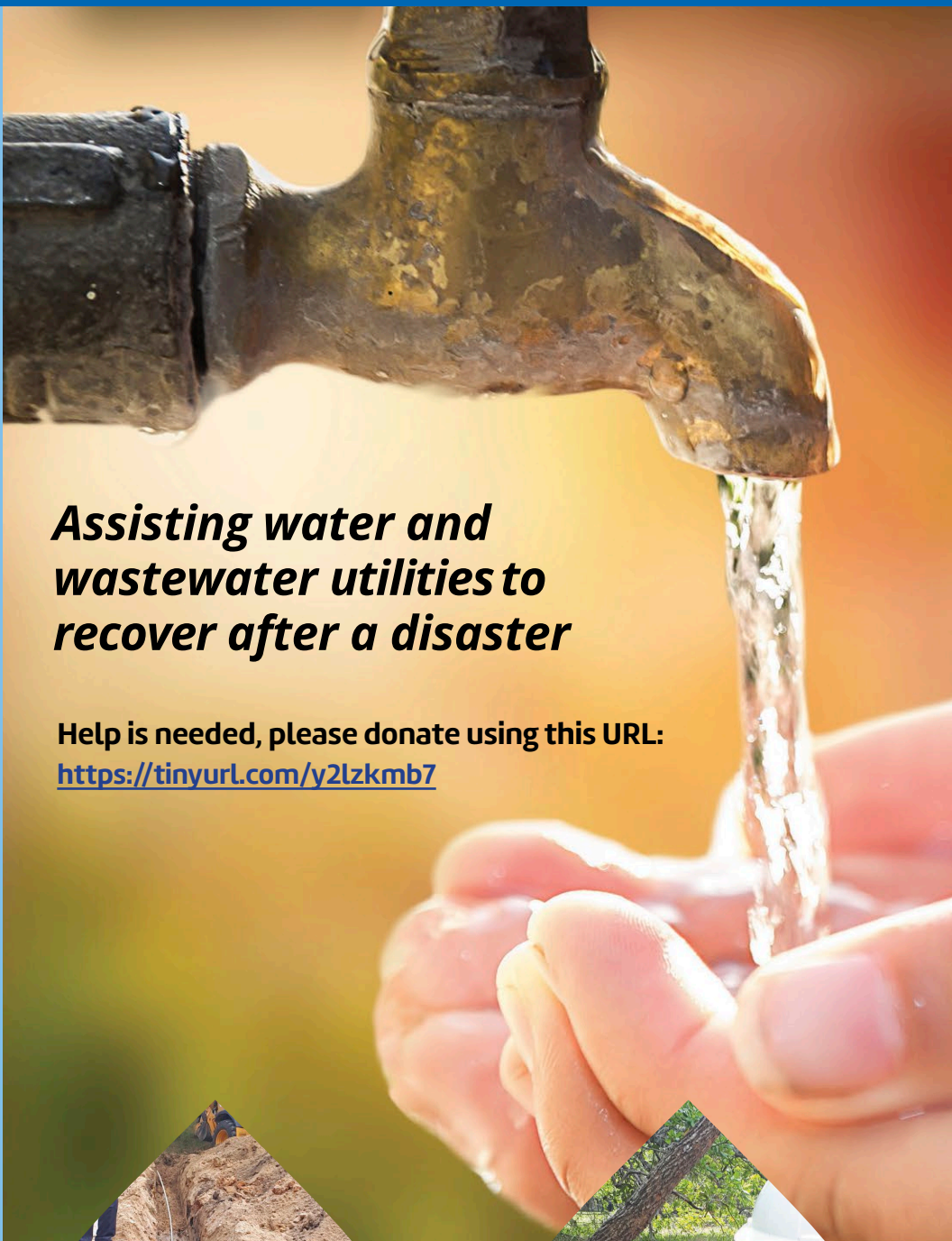
- Unrelenting precision
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- Intelligent alarms

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IN MEMORIAM

Ignacio Patricio Javier Romo Lavanderos

3 May 1945 – 30 August 2019

Former Plant Operator at the Lions Gate Wastewater Treatment Plant

Ignacio Patricio Javier Romo Lavanderos (Iggy), of North Vancouver, British Columbia, passed away at the age of 74 after a long illness on 30 August 2019, with his loving family at his bedside. Born on 3 May 1945, in La Serena, Chile, Ignacio was a loving father, husband, grandfather, and friend to everyone.

Ignacio is survived by his wife Ximena of 31 years, four sons, daughters-in-law, granddaughters, and extended family.

Ignacio was a graduate of the Instituto Politécnico de la Universidad de Chile and worked as a member of the civil engineering department of the Empresa de Agua Potable in Santiago de Chile, Region Metropolitana. Ignacio immigrated to Canada with his young family in 1974 looking for a stable and safe place where his boys could have a good life far away from the political and often violent chaos of Chile at that time. As a new immigrant, with only the most basic English, and his credentials not recognized in Canada, he worked very hard, often holding three or more jobs at a time, to ensure his family did not go without. In his early years in Canada he worked as a cook, bartender, and construction worker.

After several years in Canada, Ignacio was able to secure a position with a civil engineering firm where he was able to apply his technical design and drafting skills in municipal engineering and land development design projects. He went on to start his own civil and mechanical design and drafting business as well as working as a freelance consultant for several engineering firms. He continued design and drafting until 1994, when he turned his attention full-time to wastewater treatment.

Ignacio began working for GVRD (now Metro Vancouver) in 1985. In order to advance himself, Ignacio took on various training programs and became certified with the EOCP in 1986. He then worked as a Plant Operator at the Lions Gate Wastewater Treatment Plant.

He made many friends of his colleagues at Lions Gate as well as staff at head office. He enjoyed his work immensely and loved putting his mechanical and civil engineering acumen to work looking



for ways to improve the efficiency of the plant. He was always concerned with the well-being of his colleagues and was very serious about safety and industrial first aid, in which he was well trained.

When colleagues visited Iggy it became clear that he had the utmost love and admiration for the people and the work he devoted so much time to at Lions

Gate. He was always most concerned about how everyone at work was doing and that they were aware of how much he cared for them and missed them.

Ignacio enjoyed classical music, nature, walks with the family dog (Toby), working on anything mechanical, and spending time with his family.



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MEMBERSHIP DUES REMINDER

Following up on the email sent to the membership in January 2019, this is a reminder of the increase in membership dues for 2020. Through its 53-year history, the EOCP has been working diligently advocating for Operators, and

developing a world-class classification and certification program. It has managed to continue this work without any increase in membership dues for more than 10 years. However, due to an increase in costs, an increase

in services provided to its membership, and to ensure sustainability of the organization, in accordance with Article 11 of the Constitution and Bylaws the membership dues will be increasing to \$99 per year.

Compared to several other professional organizations in BC, even with the increase, the EOCP's annual membership dues of \$99 per year remain the lowest.

The new dues are applicable to OIT and Level I to IV Operators, and will come into effect for 2020. Dues for other designations, e.g. SWS, SWWS, etc., will not be increasing at this time.

Organization	Annual Membership Dues
BC Institute of Agrologists	\$340-\$400
College of Applied Biology	\$225-\$325
Association of BC Forest Professionals	\$531-\$565
Applied Science Technologists and Technicians of BC	\$260-\$345
Engineers and Geoscientists of BC	\$399

Source: The Final Report of the Review of Professional Reliance in Natural Resource Decision-Making

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STATISTICS

July 1 to September 30, 2019



EOCP

Environmental Operators
Certification Program

The figures in the Operator certification report reflects those Operators who have met their certification requirements for the 2016 -2017 reporting period, as well as having paid their 2019 Operator dues.

We are coming to the end of the current CEU reporting period, and Operators have been working hard to get their course completion certificates to the EOCP office before December 31, 2019. 393 Operators have submitted course completion certificates since June 30, 2019 and have earned 704 CEUs as of September 30, 2019. That is 7,040 hours of training!!

You can check your status by logging into your profile at <https://crm.eocp.ca/> and clicking on ACCOUNT to see if your

dues have been paid, and CEU under the LEARNING STATUS tab to confirm that your CEUs have been met.

Exam Statistics

- **203** Operators wrote certification exams in 56 exam sessions between July 1, 2019 and September 30, 2019.

Facilities

- **111** facilities were newly classified or reclassified from July 1, 2019 to September 30, 2019.

FACILITY CLASSIFICATION as of Sept. 30, 2019

Classification	IV	III	II	I	Other	Total
WT	20	40	119	67		246
WD	34	63	177	138		412
WWC	6	20	82	199		227
WWT	29	33	96	64		222
SWS					904	904
SWWS					211	211
Total						2,222

OPERATOR CERTIFICATION as of September 30, 2019

	IV	III	II	MUII	I	MUI	OIT	Total
WT	52	103	246	9	391	22	47	870
WD	85	193	787	15	853	28	45	2,006
WWC	16	63	475	12	679	23	36	1,304
WWT	111	127	267	6	323	22	43	899
BWD								55
SWS								838
SWWS								326
Other							64	64
Total								6,362



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*valid through
December 31, 2019





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IN-CLASS

We're now offering regional schools throughout the year to ensure you have consistent access to operator certification and skills development. This is also a great opportunity to network with your industry peers.

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November 4 - 8, 2019

- Wastewater Collection 1
- Wastewater Treatment 2
- Water Treatment 1
- Water Distribution 2
- Managing People
- Small Water Systems
- Small Wastewater Systems
- Hypochlorination
- Dam Inspection & Maintenance
- Reservoir Maintenance & Cleaning
- Water Quality & Sampling

KELOWNA

November 25 - 29, 2019

- Wastewater Collection 2
- Water Distribution 1
- Water Treatment 1
- Small Water Systems
- Small Wastewater Systems
- Dam Inspection & Maintenance
- Chlorine Handling

PRINCE GEORGE

December 2 - 6, 2019

- Wastewater Treatment 1
- Water Distribution 1
- Small Water Systems
- Water Quality & Sampling
- Dam Inspection & Maintenance

ONLINE

This is the most cost effective and flexible way to prepare for your certification – at your own pace. You gain the same knowledge as the in-class course and earn the same CEUs. Even though courses are online, you will be assisted by an instructor to ensure that you have the help you need.

The registration for our online courses is November 29, 2019

FALL SERIES

September 16 - December 20, 2019

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- Water Distribution 1
- Water Distribution 2
- Wastewater Collection 1
- Wastewater Treatment 1
- Small Water Systems
- Small Wastewater Systems

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