FALL 2022 | NUMBER 154

OPERATOR DIGEST



Quarterly Magazine of the Environmental Operators Certification Program-BC/Yukon

PLANT PROFILES

A DUAL-MOUNTAIN VISIT! GROUSE AND CYPRESS

When you go skiing, do you ever wonder where the water for the toilets, sink, and snowmakers comes from, and then where the wastewater discharges to?

Photo by Devin Manky



E0CP2022

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Mike Firlotte Water and Waste Manager, City of Whitehorse

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OPERATOR DIGEST

The **Operator Digest** is the official magazine 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 enquiries about the program should be addressed to:

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The Environmental Operators Certification Program is a charter member of Water Professionals Internationa and is a registered society with more than 4,500 active members.

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How did you become an Operator?

I was working for my family business when we needed someone with a small water system certification. I had just finished my plumbing apprentice, so I was the natural choice to get my certificate. Over the years I persued some different employment opportunities. I was hired at Grouse Mountain early 2009 to run their water treatment plant and as a plumber. Since then, I have obtained my water treatment level II certification and am in the process of getting my level III.

How long have you been an Operator?

I obtained my small water systems certificate 20 years ago and I have been running the Grouse Mountain Water Plant for around 10 years now.

What are your core functions? My

Core Function is to provide safe & clean water to Grouse Mountain and oversee all the maintenance on hill.

What is your typical day? My typical day starts in the water treatment plant checking levels and looking for any problems. I then go out to see if there are any unreported maintenance issues. Throughout out the day I am back in the plant several times to spot check for any problems.



What do you most enjoy about the work? I enjoy working on Grouse

Mountain because of the diversity of the work, the amazing people I work with, and you can't beat the view on a nice day.

What are some challenges you face? Weather causes me problems; I have problems with frozen pipes and the amount of snow we can get up on the mountain makes moving people and

What advice do you have on how to have a successful career as an Operator? Never shy away from an opportunity.

materials difficult.

What do you do when you aren't working? Spend time with my family we do a lot of outdoor activities like mountain biking, camping, fishing, hunting and skiing.

What else can you tell us about working as an Environmental **Operator?** I've always enjoyed working as an environmental operator. There is a sense of pride knowing you provide safe/ clean drinking water to the public.

Whom would you recognize as a mentor? I would recognize my father as my mentor. He taught me how to work hard and never leave a job until it's 100% done.

MESSAGE FROM THE DIRECTORS AND STAFF



Dear Friends,

Well, wasn't that a conference?! We started off with our very first conference in 2018 with 200 delegates, and this year we had 200 delegates in person and 400 joining us virtually.

Not only did we have delegates from BC and YK, we also had with us delegates from other parts of Canada, several US states, the Caribbean, and Albania, making EOCP2022 an international conference!

- 1. The conference met my expectations.
- Strongly Agree
- AgreeDisagree
- Strongly Disagree
- 2. Are you interested in attending the EOCP's conference next year?
 Dates are 11-13
 September 2023.
- Strongly Agree
- Agree
- 3. If interested in attending EOCP 2023, would you prefer to attend:
- In Person
- Virtually



Chris Kerman

The feedback was quite amazing with almost 92% either strongly agreeing or agreeing that the conference met their expectations:

But the conference is not all that we have been busy with since the last issue of the Operator Digest.

We have been working on our Constitution and Bylaws to ensure that they line up with our four Strategic Priorities. As a result, some changes:

- a. The Bylaws now refer to the Code of Ethics and Standards of Practice for Environmental Operators
- b. Board directors now have to sign an Oath of Office
- c. To ensure vulnerable communities have a seat at the table, one of the Operator positions will be designated to an Operator who works at a facility serving a population of fewer than 500 people
- a. The Annual General Meeting will now be held in September to synchronize with our conference

Kalpna Solanki

We have launched a new certification, 'Stormwater Collection System (SCS)' Operator. The new certification will be available as of January 2023.

In honour of Brian Thorburn, who we lost suddenly and prematurely earlier this year, the EOCP has established an annual student scholarship. There will be three awards, each worth \$2,500, and allocated to one student from each of the programs that trains Environmental Operators – BCIT, Okanagan College, and Thompson Rivers University.

We appreciate all that you do. Please stay safe, and hug your loved ones.

With best regards,

Chris Kerman, Board Chair Kalpna Solanki, President and Chief Executive Officer

SAVE THE DATE

EOCP's Next Conference is 11-13 September 2023!



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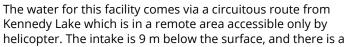
A DUAL-MOUNTAIN VISIT!

By Kalpna Solanki CPHI(C) BSc MBA

When you go skiing, do you ever wonder where the water for the toilets, sink, and snowmakers comes from, and then where the wastewater discharges to?

I do! I think about these things, and recently had an opportunity to visit two mountains that are quite special to me: Grouse Mountain where I learned to ski, and Cypress Mountain where I ski every year.

Let's start with Grouse Mountain where the water treatment facility (WT III) is overseen by Nick Muller, CWP.





Standpipe

pumphouse at the lake that pumps the water from an intake over the ridge via a steel pipe to Blue Grouse Lake. The distance from one to the other is around 1 km. Although Kennedy Lake is remote, periodic visits need to be made, throughout the year, to ensure the pump is maintained.

The water in Kennedy Lake is pristine, however the water in Blue Grouse Lake has some turbidity, especially in the Spring and Fall. The water from Blue Grouse Lake has two fates: it is screened and then used for the snowmakers, the other is potable use.

Water for potable use undergoes treatment via the addition of sodium hypochlorite, aluminex, and then a mixing chamber. The

Grouse Mountain Water Treatment Facility

agitated water then goes to a clarifier, a depth filter, and then a 5 micron cartridge filter. The water then undergoes UV treatment and sodium hypochlorite is added. The chlorine and turbidity levels are monitored via a SCADA system and the facility is monitored daily to ensure it is operating well. The treated water then goes to a reservoir with a capacity of more than 170,000 Litres. The larger filters are backwashed daily with backwash water going to the wastewater system, the cartridge filter is replaced monthly.

The wastewater from the site discharges directly to the District of North Vancouver's (DNV) wastewater collection system.

Grouse Mountain has rocky terrain and pipes are close to the surface resulting in problems when there is a cold snap before snow is there to insulate the pipes. Many of the lines have heat trace to stop freezing. There are also 200 standpipes around the mountain for the snowmakers, and these also provide ready access to water in the summer in the event of wildfires. Staff working on the mountain are trained to spot and fight fires.

Grouse Mountain was a hive of activity when I was there. With all the activities available there, the mountain is now busier in the summer than in the winter. There is also work under way to replace the Grouse Mountain Skyride and plans to replace the aging clay tile pipe sewer line connecting the mountain to the DNV wastewater collection system. These are just a few of the projects under way at Grouse Mountain and I look forward to hearing about the completion of these projects.



Pumps at Wastewater Storage Facility

At Cypress Mountain, where I have been skiing for several seasons, I had the opportunity to meet with Jeremy Wentzel, Director of Operations as well as Kevin McKay, a future Operator and tour the water treatment facility (WT I, WDI).

Here, the water comes from an intake behind a dam on the Montizambert Creek. The distance from the intake to the water treatment facility is only 150 m away. The water goes through a coarse filter, and then microfiltration (Memcor Ultrafiltration modules). The backwash of the microfilter system occurs every 30 minutes, the backwash water goes to a tank, and is then discharged to a drain pit. The water is treated with sodium hypochlorite and then is stored in a reservoir with a capacity of more than 1,545,000 Litres. This storage capacity is essential as the treatment facility can process a maximum of just over 151,000 Litres per day, however, demand at peak times can go up to almost 273,000 Litres per day! The current plan is to increase storage capacity to ensure demand at peak times can be met.

The raw water has few issues with turbidity, except from the intake to the water treatment facility, the distribution system is via gravity – the water treatment facility is 950 m above sea level while most of the buildings are 910 m above sea level. In fact, for the mechanical shop, which is further down the mountain, there is a PRV station in the system.

Snowmakers get water from an artificially created reservoir that is filled with natural runoff as well as water pumped from Cypress Creek. The resort has close to 150 standpipes, and similar to Grouse Mountain, these are available in the event of fires. Staff are also trained to be cautious when working outside in the summer, especially if using equipment that could cause sparks. In such cases, staff carry water tanks, and can also utilize the brine trucks for suppressing a fire if necessary.

'Cypress' continued on page 14



Jeremy Wentzel and Kevin McKay by the Memcor Filtration System

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SNAPSHOT FROM EOCP2022 It was great to be back to in-person sessions and interactions, with the

option to attend virtually!



EOCP staff Kim Eames, Stephanie Hall, and Heather Reynolds prepare to welcome the delegates.



The Winners at the Octaform Session.



The Incredibly Inspiring Leah Goldstein



A Very Busy Tradeshow!



The Abbotsford Team Enjoys the Poop Emoji Cupcakes.



Awards Dinner Sponsor LNG Canada's Quinlan Harris, Jerry Thompson, Cameron McCormick and Jason Yuzda with EOCP President and CEO, Kalpna Solanki.



It was a packed house at the Cybersecurity Session with Bart Nelissen.



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2022 AWARDS DINNER - HIGHLIGHTS



The Hawaiian theme helped everyone loosen up and enjoy each other's company after 2 years of virtual conferences.



Farhan Baig and Cliff Prang act out a scene from 'Top Gun".



Operator of the Year Award – Kevin Vilac

Kevin is from the City of Merritt and was instrumental in getting Merritt's water and wastewater systems back online after the flood in November 2021. He coordinated with the Operators from the cities of Kelowna and Kamloops, and the Black Mountain Irrigation District who offered aid to help restore the systems.





Innovation Award – PavCo and the Vancouver Convention Centre (West)

Award accepted by Bruce Caister, Blackwater Treatment Plant Operator at the Vancouver Convention Centre.

This convention centre facility uses treated effluent for irrigation as well as for flushing toilets. This reuse of water has a significant impact in terms of water conservation.

Bert Caine Award - Bob Smith

Bob Smith (left) accepting the award from Ben Kineshanko.

The Bert Caine award is presented to an individual in recognition of outstanding, long-term service to the EOCP. The award is named in honour of Bert Caine, the first secretary/treasurer of the Program. Bert was instrumental in bringing the Program from an ad-hoc group of concerned Operators through to a formally constituted body recognized internationally.



Corporate Recognition Award -Okanagan College

(Allison O'Neill accepting the award for Okanagan College from Chris Ford)

This year's corporate recognition award went to Okanagan College for its Water Engineering Technology Program in recognition of the Program's ongoing contribution to the water and wastewater industry by providing exemplary training for students.

Outstanding Student Awards

Recognizing second year students in water and wastewater programs who have obtained good grades in their program of study, as well as showing a commitment to the field of water and wastewater. Each student received \$500 from EOCP to help with the second year of their program.

Michael Bauerlein Nicholas Corman Kathy Duckert Dylan Meville Nara Julliana Vieira de Farias Trevor Wingrove



It's easy to get the skills you need to build your career with the BCWWA! Registration for winter courses is now open at bcwwa.org/site/membership/join/BCWWA.

INSTRUCTOR-LED VIRTUAL CLASSES

The BCWWA continues to offer instructor-led classes in a virtual format, allowing for expanded access to our course offerings. These courses run for the same duration as physical classroom courses and are delivered by live instructors in real-time.

UPCOMING COURSES

October 31 - December 8, 2022

- Wastewater Collection 2
- Unidirectional Flushing
- Introduction to Hydrogeology and Groundwater Management
- Pumps and Pumping Hydraulics
- Dam Safety Management
- Leak Detection
- Source Water Protection
- Wastewater Collection System Odor and Corrosion Control
- Water Quality and Sampling (Water and Wastewater System)
- Introduction to Supervisory and Leadership Skills
- Preventing Waterborne Illness
- Ultraviolet Disinfection

ONLINE CLASSES

Online classes are a cost-effective and flexible way to prepare for your certification. Learn at your own pace and gain the same required knowledge that you would in an in-person classroom while earning the same CEU credits!

SEMESTERED ENROLLMENT

October 5 - December 31, 2022

Online courses include access to a seasoned instructor for questions and clarification during your learning experience.

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

CONTINUOUS ENROLLMENT

- · Chlorine Handling Refresher
- Hypochlorination

Purchase a BCWWA membership first (\$109) and receive a \$130 discount on ALL courses and other selected products for one year! For further information, visit bcwwa.org/site/membership/join/BCWWA.



THANK YOU EOCP2022 VOLUNTEERS

By Kim Eames - Conference volunteer lead

The staff at EOCP want to take this opportunity to thank our incredible volunteers for their support and assistance during this year's EOCP Conference and Tradeshow. A significant part of any conference's success is keeping things running smoothly. Our 20 volunteers stepped into the key roles of moderators running the sessions, and room monitors scanning the delegate badges to help attending Operators get their CEUs. We appreciate the dedication of the time of our volunteers during an event that is so important to us at the EOCP, and the many Operators who attended. We hope to see you all again in 2023.

"As you grow older, you will discover that you have two hands — one for helping yourself, the other for helping others."

Audrey Hepburn

Above right: Allison O'Neill - moderator

Below: Volunteer - Peter Galitzine - Room Monitor

Below right: Volunteers - Darryl Bjorgaard, Sarah Pennington, Matthew Glanfield - Room Monitors

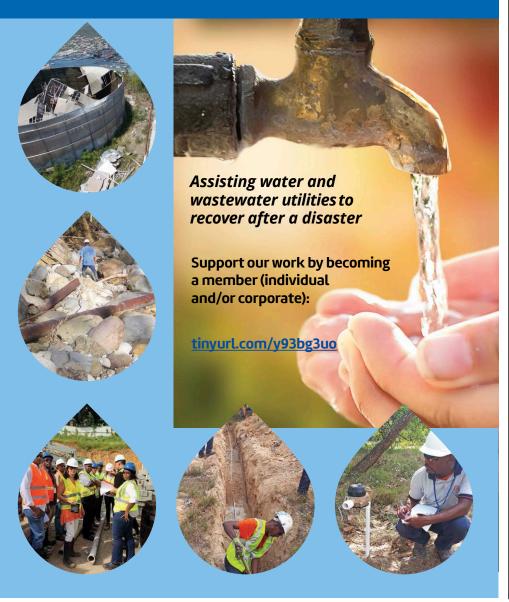








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RECOGNIZING 30 YEARS OF DEDICATION

The EOCP would like to recognize the following Lifetime members who have been certified with the EOCP for thirty years:

- 1. Maurice Valcourt
- 2. Paul Getman
- 3. Matthew Green
- 4. Eric Loyer
- 5. Larry Massier
- 6. Chris Radford
- 7. Trevor Wyatt
- 8. Robert Carr
- 9. Graham Bewley
- 10. Rick Peach
- 11. Bruno Pavan







NEW SYSTEM STORMWATER COLLECTION

By Kalpna Solanki CPHI(C) BSc MBA and Chandana Sundar BTech MEng

Necessity dictates that Stormwater Collection is treated as a separate utility and we are already seeing examples of these across BC. But who is managing these stormwater systems?

Invariably we are seeing two groups that are typically working in this area. The first is EOCP-certified Wastewater Collection Operators and the second is people from the general labourer pool. Unfortunately, both can result in some problems. The former because it utilizes WWC Operators who may already be in short supply, the latter because the laborer pool would not have the training needed to manage the increasingly complex stormwater collection system.

Training and certification are necessary for a Stormwater Collection Systems Operator as they must consider different attributes. For example, SCS Operators are required to work for a more extensive system, take care of lift stations, understand retention ponds, tackle contamination, etc.

With the increase in the number of heavy rainfall events, and their severity, the time has come for certified professional to work in this area. This is where the EOCP's new Stormwater Collection System Certification comes in. By enhancing certification and training, the staff can devote more resources to the creation of better stormwater management controls that are needed more than ever in this era of climate change.

Pre-requisites for the Stormwater Collection System (SCS) Operator certification, and ongoing requirements to maintain the certification are:

Proof of high school graduation, or equivalent

2. Completion of an accredited SCS course:

- a. Course would be 3 days long,1.2 CEUs
- b. Training providers are preparing course materials

3. Examination:

- a. Web-based or Paper
- b. \$100 fee
- c. 50 Questions
- d. 1.5 hours long



Number of Questions	Content Area	Job Task Complexity Levels
5	Stormwater System Infrastructure	Ŷ <u>L</u> Q
25	Stormwater System Operation, Evaluation, and Maintenance	-@- ™ ♂
10	Maintenance Equipment Operation	Ŷ <u>M</u> Q
10	Security, Safety, and Administrative Procedures	- ⊕
50	TOTAL	Ů ™ ✓

4. Maintaining Certification:

- a. Payment of EOCP annual dues (\$99).
- b. Completion of 1.2 CEUs (core and related) in every two-year reporting period (the first reporting period would be 1st January 2024 to 31st December 2025)

We will keep you apprised of when the courses and application process go live. Keep in mind that the bodies of water your community's stormwater systems drain to, could be the source of another community's drinking water. We need to work together.



WHO'S ON THE MOVE

Mike Firlotte CWP, CWWP Water and Waste Manager, City of Whitehorse



'Cypress' continued from page 5

Unlike Grouse Mountain, Cypress Mountain is busier in the winter than in the summer. The wastewater from the facility undergoes grinding and is stored in a 605,665 Litre tank which has circulation. The wastewater is then discharged to the District of North Vancouver wastewater collection system between the hours of 11 pm and 7 am.

Cypress Mountain is unusual in that BC Parks owns the water treatment and wastewater storage facilities, but both are maintained by Cypress Mountain Resorts.

As a regular skier at Cypress, the slopes are almost unrecognizable without snow. However, there was a great deal of activity there with numerous hikers utilizing the trails.

We are fortunate to have such amazing mountains that can easily be accessed year round – whether you ski or not!



Snowmaker Standing in Wait

What was your first job? I became a lifeguard and swimming instructor for the City of Penticton.

What was your path to becoming an Operator? I was working for the City of Penticton, they just had completed the construction of their Water Treatment Plant, it was a choice to go into Parks or Into the Water/Wastewater field. I chose the latter and enrolled in the OUC Water Quality Program (Water Engineering Technology). Also lots of hard work and an appetite to try and experience new things.

How did you pivot from your last position to your current one? I have been contract teaching in the Yukon for the last 15 years, the role I am in now is a mix of my former roles all rolled into one, it gives me the challenge I desire and a great staff and organization.

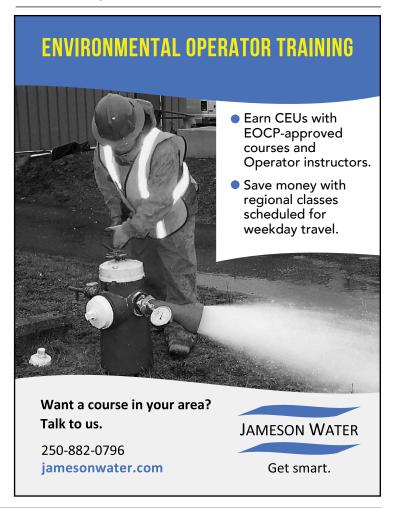
What advice would you give to someone who is currently an Operator or considering becoming one? Have a goal in mind and put in the hard work to get there, even the setbacks are key learning opportunities, but you will get there if desired.

What are some of your goals in your new position? To find resources and look at making business practices more efficient.

What has the impact of COVID-19 been on your organization? Like most organizations, COVID-19 gave us a lot to think about, it has changed our staffing level and business practices, but in Water and Waste we have and will be essential and the pandemic just helped bring this into focus.

What do you do in your spare time?

What is that? But seriously, I teach for Yukon university, volunteer for EOCP and WPI and explore the beautiful Yukon Territory which is now my home.



STATISTICS

1st July to 30th September 2022



EXAM STATISTICS



236 exams taken

76 exam sessions

FACILITIES



45 facilities re/classified

CONTINUING EDUCATION UNITS (CEUs)

990

Operators submitted CEUs

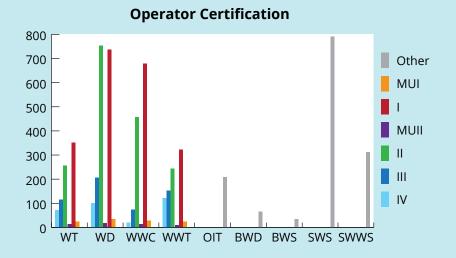
1,656 ^C_{ex}

CEUs were earned

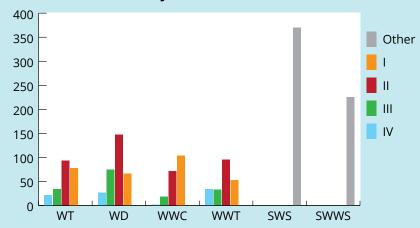
DEFINITIONS

WT Water Treatment WD Water Distribution **WWC** Wastewater Collection **WWT** Wastewater Treatment OIT **Operator In Training BWD Bulk Water Delivery Building Water System BWS SWS Small Water System** SWWS Small Wastewater System ΜU Multi Utility

CEUs can be added to your profile by choosing <u>Action > Add Course Taken</u> under the learning column. Or you can email your certificates to <u>eocp@eocp.ca</u>.



Facility Classification



Check your Operator status by logging into your profile at https://crm.eocp.ca/ and clicking on ACCOUNT to see if your 2022 dues have been paid, and CEU under the LEARNING STATUS tab to see if your CEUs have been met.

If your CEUs have not been met for the 2020 - 2021 reporting period, and/or your dues haven't been paid, your status will be red flagged and you will be listed as not certified.

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Attend in person (in Vancouver) or online! Registration Opens on the 1st of May 2023.

What #EOCP2022 attendees said:

- **Thank you, I enjoyed the event very much. There were diverse topics, interesting conversations, and the food was excellent.**
- Wery great, more than I thought it was going to be."
- Was very impressed with it all, I've already got the go ahead to attend in person next year. See you next year!
- Great Tradeshow much needed Information. 33

For more information and to register, check out eocp.ca/eocp-conference/



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