OPERATOR DIGEST

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FEATURED ARTICLE

OPERATORS AT THE HEART OF MALAHAT NATION'S COMMUNITY INFRASTRUCTURE

P15

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

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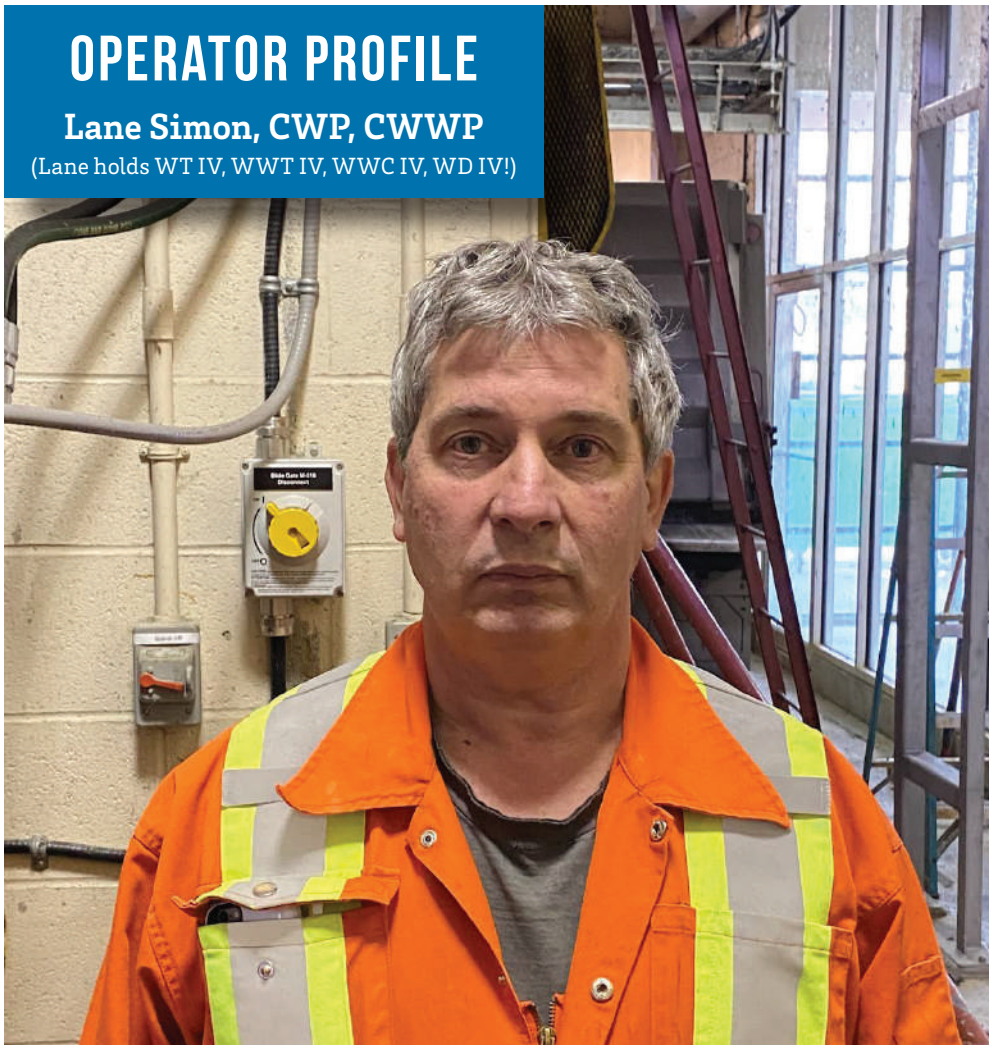
The Environmental Operators Certification Program is a charter member of Water Professionals International and is a registered society with more than 4,500 active members.

OPERATOR PROFILE

Lane Simon, CWP, CWWP

(Lane holds WT IV, WWT IV, WWC IV, WD IV!)



How did you become an Operator?

I was employed with Canadian Forest Products Limited at the Gold River Pulpmill where I had moved from first aid to the steam and recovery department and the brand-new Effluent Treatment Plant, (effluent flow 100 ML/D). I was involved with the commissioning and operation of the effluent treatment plant until the mill's permanent closure. I was also the first operator to be certified at this facility. I successfully achieved my first Wastewater Treatment Operator certification June 1998.

I found operating and maintaining treatment plants challenging and I continued to progress in my levels of certification, I also attained my 4th Class Power Engineering Certification. Upon the mill's closure I was forced to relocate to the City of Merritt where I accepted a wastewater treatment plant operator position. Like most small municipalities you are challenged to take on more responsibility. Here the wastewater treatment plant operators also operated and maintained the well water pumps, reservoirs and assisted with the water distribution system operation and maintenance. We also operated and maintained the collection system and lift-station pumps. I expanded my certifications branching out to Wastewater Collection and Water Distribution.

From the City of Merritt, I accepted a position with the Comox Valley Regional District back on Vancouver Island which is where my family really wanted to live. I really appreciated that at the Comox Valley Water Pollution Control Center every operator rotated through all positions, which ensured the work was intellectually engaging and supported continuous learning. We had just built a new composting facility which was also part of our rotation to operate and maintain.

I successfully passed my level IV Wastewater Treatment Operators certification before accepting a new position with the Municipality of Wood Buffalo in Fort McMurray. I participated in commissioning a brand new Enhanced Biological Nutrient Removal facility with composting facility onsite. Here the thirteen collection systems lift-station fell under the Wastewater Treatment Plant to operate and maintain. I moved from the Wastewater Treatment to the Water Treatment Plant to gain experience in this discipline. They had two water treatment technologies at this facility: conventional water treatment and a new acti-flow water treatment. The water treatment plant operators operated and maintained all the water distribution system pump stations including sampling.

During Covid I returned to the Comox Valley Water Pollution Control Center.

How long have you been an Operator?

I have been an operator for over 30 years.

What are your core functions?

Briefly, I am responsible and accountable for the safe and efficient operation of all Comox Valley Regional District (CVRD) wastewater, lift-stations, compost facilities and the landfill gas system. I work with the leadership team to coordinate, assign, review, and participate in the work of staff and contractors responsible for the operation, maintenance, and repair of the CVRD wastewater treatment plant and related facilities. We are currently upgrading our Sewer conveyance system which will bring its own unique challenges as it is a large complex project and involves three different stakeholders. This project will extend for a planned 30-month duration.

What is your typical day?

As many of the previous operators have stated, our typical day can be dramatically different from day to day. I review emails and my calendar for meeting deadlines etc. Generally, I am in early to review SCADA and trends for all facilities looking for operational issues and concerns ensuring they are passed on to the operations team to investigate further and implement solutions. I walk through the plant to see how projects and maintenance are progressing, also noting issues or concern found during this plant walk through. I then review notes and write down tasks that require completion and assign work. I always ensure that I follow-up on progress and attempt to provide the materials that my team requires to complete the assigned tasks. I walk throughout the plant a couple of times a day to check on progress and note safety concern or just be available to the team when they need my help. At the end of the day, I again review SCADA and trends for operation issues and alarms. Last, I will make notes of thing that need to be arranged or dealt with the following day.

What do you most enjoy about the work?

The thing that I enjoy the most about my position is that it places me directly in the middle of everything, I get to learn way more. I call it the information highway because I am more involved with all the operators, managers, senior manager, and consultants. I have the opportunity to learn from everyone, win-win in my eyes.

What are some challenges you face?

- Technological changes, increasingly more stringent regulations
- Rising financial costs
- Planning for future
- Asset management, infrastructure maintenance
- Emergency preparedness
- Safety increasing regulations training and competency
- Staffing, training and competency
- Energy consumption, energy efficiency
- Sludge production
- Greenhouse gas emissions, carbon footprint, etc.

Can you speak of any highlight in the past year?

We have a young team without a lot of experience, but I respect that everyone will step in and help whenever required without being asked. Teamwork is a hard thing to teach and to see that our future operators are being positive and finding ways to make our careers more enjoyable whenever they can be is a complete relief from operators who continually complain about everything.

What advice do you have on how to have a successful career as an Operator?

I began by establishing goals and milestones based on my long-term plans and objectives. For example, I had determined very early in my operator career that I wanted to achieve a Level IV Certification in all four disciplines so that I could help or assist smaller communities with any issues that they might be facing now or after I retire. Through patience and determination, I was able to achieve this goal plus a couple of extra certifications as well.

What do you do when you are not working?

I love fishing and fly tying but also enjoy automotive restoration and woodworking.

What else can you tell us about working as an Environmental Operator?

In this role you must lead by example and be prepared to step up during emergencies. Communities are continually dealing with true emergencies. Personally, one of the most rewarding but stressful work experiences that I faced were the fires in 2016 that burnt 1,200 structures in Fort McMurray and forced 90,000 people to evacuate. In the moment this was overwhelming, but I have the upmost respect for coworkers that worked right beside me even though they had lost their homes. This negative event was utilized to create a "Lessons Learned" presentation to help other communities deal with similar disasters.

Whom would you recognize as a mentor?

Graeme Faris and all the staff at the CVRD were true mentors. Peter Vandinter, Dan Whitehead, Denis Gage, Dave Stewart, and Mike Imrie. Graeme always made the time to answer any questions that I had.

Anything else you would like to add?

Throughout my career the people that I admire the most are the ones who take the initiative to do whatever they can whenever they can to make improvement for the betterment of everyone.

In Remembrance of
Colby Richmond
(1965-JUN-02 to 2025-JUL-08)

Colby started with the City of Nanaimo on July 4, 1994, and sadly passed away on July 8, 2025. He worked at Public Works as a Utilities Technician with the Storm and Sanitary Sewer Departments for 31 years. Colby had an outstanding drive and work ethic, exceptional attention to detail and was always smiling.

Colby was instrumental in creating and maintaining the CCTV pipe inspection program for the Storm and Sewer departments. He set a very high standard and expectation that has produced exceptional data for the City of Nanaimo.

In addition to his technical duties, Colby spent over 25 years as a first aid attendant as well as being a member and co-chair of the Joint Occupational Health and Safety Committee. Colby was relentless at identifying issues and seeking their resolution and diligently maintained the Public Works Safety Board with no less than ten inspection sites. He had a passion for the safety and well-being of his colleagues.

Colby was the unsung hero at Public Works and was often found fixing a chair, giving lessons on the plotter, replenishing first aid kits and form packages he created, or cleaning the coffee filters and carafes. He took on many roles and worked closely with many departments around the City.

Colby leaves behind his wife of 30 years, Kay, and their two children.

MESSAGE FROM THE CEO

New Year, New Milestones, New Goals, New Strategies!

A lot of "new"— but that doesn't mean out with the old. EOCP has adopted its new **Strategic Plan for 2026–2030**, building on past accomplishments while expanding our vision and mission for the next five years. As we begin rolling out key elements of the plan, our focus remains clear: supporting operators, strengthening certification, and improving the tools and services that make training and career pathways easier to navigate. You can expect progress on expanded learning opportunities, broader outreach across BC and Yukon, and modernized digital systems designed to save time and reduce barriers.

2026 also marks a major milestone — **EOCP's 60th Anniversary.** Reflecting on EOCP's history and the reasons it was established fills me with pride, and I am honoured to help lead the organization and the water and wastewater sector toward the next chapter. We are actively planning this year's conference, along with a special **60th Anniversary Gala.** More details will be shared as plans come together.

Recently, the team completed printing, stuffing, and mailing 3000 Operator Certificates in just 3 days (!), with more to come next month. These represent Operators who are up to date on their CEUs for the last period, have paid their dues, and show a green thumb on their profile. Thank you and kudos to you! If you have not received your certificate in the mail, please log in to the CRM and check your profile!

Since the introduction of the new need-to-know criteria and the launch of updated exams, we are seeing higher pass rates and receiving positive feedback. Exam standards have not changed — exams are not easier — but questions are clearer and more precise, allowing operators to better demonstrate their knowledge.

With 2026 off to a strong start and with fresh collaboration opportunities emerging, I am excited about what lies ahead and what we can build together. As the saying goes, all roads lead to Rome — even if getting there takes strategic thinking, thoughtful planning, and support along the way.

Stay tuned for updates in your inbox and on the EOCP calendar as we prepare for the **2026 Tradeshow and Education Sessions "Past, Present, Future, powered by EOCP Operators", September 14–16, 2026**, our **60th Anniversary** celebrations and many other exciting initiatives.

Onward, together –

Katja

INTRODUCING THE EOCP STRATEGIC PLAN 2026–2030

By Katja Roberts

Over the next four years, the EOCP is doubling down on what matters most: supporting operators, strengthening certification, and protecting the communities and environments we all serve. The EOCP Strategic Plan 2026–2030 builds on the strengths of our sector while preparing us for the realities ahead — new technologies, evolving regulations, workforce needs, and growing expectations around public health and environmental stewardship.

At the heart of the plan are three priorities that directly support operators in the field and in the classroom: advancing certified excellence, creating stronger, and more inclusive partnerships, and improving systems and services so training, certification, and professional development are easier to access and navigate. From more engaging learning opportunities and clearer career pathways to modernized digital tools and increased outreach across BC and the Yukon, this plan is designed to help operators succeed at every stage of their career.

We invite all EOCP-certified operators, trainers, employers, and partners to stay engaged as we bring this plan to life — share your perspectives, participate in upcoming initiatives, and help us continue building a strong, skilled, and supported operator community.

For the full version of the Strategic Plan 2026-2030, please visit our website www.eocp.ca for reference.

Group Insurance Benefits Through EOCP

Did you know that through the EOCP there are tailored options for employee group insurance and benefits whether as an individual operator or for your employee group?

In partnership with HUB International, specific programs are available to provide valuable coverage for employees, operators, and family members.

Coverage can include but is not limited to:
- Life insurance
- Critical Illness insurance
- Extended healthcare (e.g., prescription medication, physiotherapist, chiropractor, prescription eyewear, travel, etc.)
- Dental care
- And more

For more information on our employee health benefit options through the EOCP, please reach out to Maury Lum (maury.lum@hubinternational.com, (236) 838-6817).

MEET JOSH DUECK

This Year's EOCP Tradeshow and Education Sessions Keynote Speaker

We are please to announce that the EOCP2026 keynote speaker is Josh Dueck, an X Games gold medalist & Paralympic champion.

A pioneer in Para alpine sit skiing, two-time Paralympian Josh Dueck reached the highest levels of his sport and remained an influential figure off the field of play for decades.

Born in Kimberley, British Columbia, he loved being on the snow and was a freestyle skier before an accident on the hill forced him to change his plans. Instead, he turned his attention to Para alpine skiing. Six years later, he was competing – and winning – when he made his Paralympic debut in his home province, suiting up for Canada at Vancouver 2010, where he won a silver medal in the men's sitting slalom race. Josh is now a two-time Paralympian, representing Canada at Sochi 2014 and a two-time X Games champion in 2010 and 2011.

In 2012, Josh became the first sit-skier to complete a backflip on snow, earning him worldwide notoriety. In Sochi, he added silver and gold in the Men's downhill and the Super combined events. Recently, Josh took on the role of Chef de Mission for Canada's Paralympic team at Beijing 2022 and helped the team to 'create opportunity from the unknown.'

Josh's day job is as the Executive Director for a social impact sports organization, Freestyle BC, supporting athletes, coaches and officials in a sport that first inspired and shaped him. He is also a member of the International Paralympic Committee's Governing Board and Athlete Council, as well as a Donor Advisor for the Canadian Paralympic Foundation.

WHO'S ON THE MOVE

Tina Henderson, CWP, CWWP with ATAP Infrastructure Management

Tina Henderson, CWP, CWWP

What was your first job?

I applied for a position to operate an Alfa Laval Centrifuge in a large level IV Water and Wastewater treatment facility. At the time, I had no previous experience or training in wastewater or its processes, but I did have extended process experience in the Oil and Gas sector. I was able to apply transferable skills, mechanical aptitude, and had an eagerness to learn, I embraced the challenge.

What was your path to becoming an Operator?

I started in a water and wastewater treatment plant, where I was luckily enough to work for a company who encouraged their employees to explore both sides of the treatment processes. I mentored off senior operators, asked a million questions, and traced all lines in and out of the system. I developed the skills and took the training and responsibility very serious. I obtained my Water Treatment, Wastewater Treatment and Distribution certifications and kept working towards higher certifications.

How did you pivot from your last position to your current one?

I transitioned into my current role as Water and Wastewater Technologist with ATAP Infrastructure Management after realizing I wanted to combine my operational experience with a more technical, system wide perspective. In my previous position, I focused on equipment operation, process adjustments, sampling, and responding to changing plant conditions. That day-to-day work gave me a strong practical understanding but is limited to the plant on hand. We all know there are many variations to the treatment process. Moving into a Technologist role allows me to take those skills further and help develop and support operators and their communities in a broader hands-on approach.

What advice would you give to someone who is currently an Operator or considering becoming one?

I feel fortunate to have had the opportunity to build a career that is rewarding, challenging, and vital to community health and well being. You have a direct impact on life's most essential resource, water. The skills you gain and the contribution to your community is of utmost importance "No Operator, No Water", you can take pride in this profession.

Understanding your treatment processes and taking the time to learn how your system responds under different conditions is critical to success. Ask the questions and learn from experienced operators — their practical knowledge is invaluable. Don't fear failures, be willing to learn from them.
Remember, you are part of an elite group of vital services, a steward in the protection of our most essential resource, community health, and environmental impacts.

What are some of your goals in your new position?

Some of my goals are to strengthen my technical depth by collaborating and learning from like minded professionals and embracing the experience of senior mentors; to prove that I am an essential part of the ATAP Infrastructure Management Team.

What do you do in your spare time?

I enjoy spending time with family and friends, going to concerts, travelling, or curling up with a good book. I also have two Maine Coon Cats; they are a huge part of my life, and I have been harness training them since they were babies to be outdoor explorers with me.

CELEBRATING 60 YEARS:

HONOURING OUR ROOTS AND THE LEGACY OF GERALD HAY

By Heather Reynolds

As we mark 60 years of dedication to water and wastewater excellence, we take a moment to reflect on the pioneers who laid the foundation for our industry. Among them is Gerald Hay, whose story exemplifies the spirit of service, innovation, and foresight that continues to shape our work today.

Gerald (Gerry) Hay served with the Canadian Navy from 1940 to 1947, where he trained and worked as an engineer. Following his military service, he brought his expertise to Langley Hospital, eventually retiring as Chief Engineer in 1986. His commitment to public service and engineering excellence spanned decades and left a lasting impact on those around him.

In the mid-1960s, Gerry took the initiative to attend the 5th and 6th annual training schools for Sewage Waste Operators at UBC—some of the earliest organized efforts to professionalize water and wastewater operations in British Columbia. These schools were supported by the American Water Works Association and the Water Pollution Control Federation (later WEF), and they laid the groundwork for what would become the Environmental Operators Certification Program (EOCP).

It's important to note that Gerry likely enrolled in these schools on his own initiative, at a time when legislation around wastewater treatment was still developing. Langley Hospital, where he worked, likely managed its own wastewater treatment independently, before the Township and City of Langley grew large enough for the Hospital to be connected to centralized municipal services. This speaks volumes about the foresight and diligence of operators like Gerry, who recognized the importance of proper wastewater management long before it was mandated.

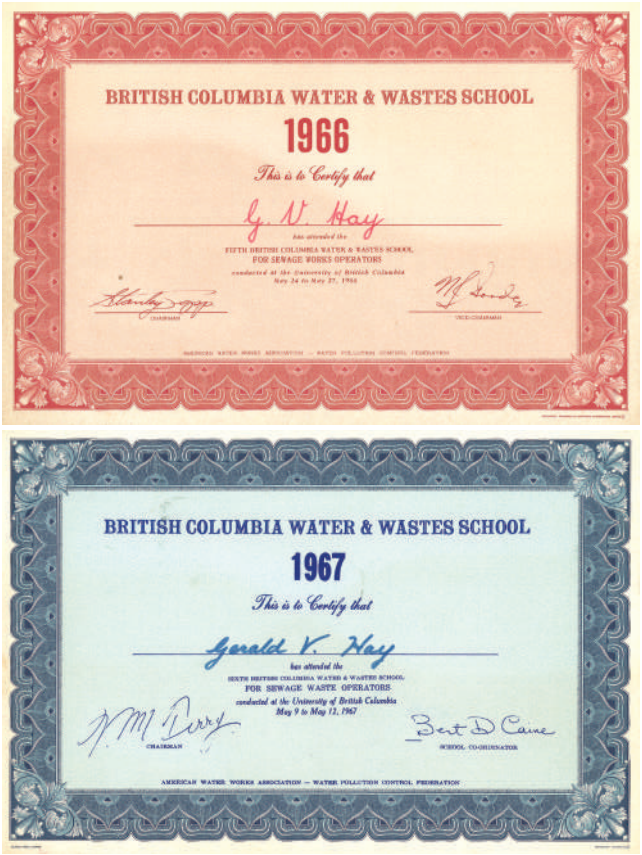
A particularly special artifact from this era is Gerry's 1967 certificate, signed by Bert D. Caine, the long-serving Secretary of the Certification Program, & Victor M. Terry, an early Chairman in what would become the BCWWA. Both individuals were pivotal contributors to training and certification in the early days of EOCP and BCWWA. These signatures represent a key moment in the evolution of operator certification and the formalization of standards that continue to guide our work today and both organizations give out awards to long-standing supports in honour of these gentlemen.

EOCP – Bert D. Caine Award -
https://eocp.ca/about-us/operator-awards/

BCWWA – Victor M. Terry Award -
https://bcwwa.org/site/awards/BCWWA/overview?nav=sidebar#Operator

We extend our heartfelt thanks to **EOCP Operator Griffin Becker** for sharing these certificates and the stories from his family's history. These glimpses into the past remind us of the diligence and vision of operators, engineers, and supervisors in the 1960s—working with purpose even before legislation mandated it.

As the EOCP celebrates 60 years, we honour the legacy of individuals like Gerry Hay and the early schools that helped shape our industry. Their contributions continue to inspire us as we look toward the future with the same commitment to excellence and community service.



Gerald Hay's 1966 and 1967 Certificates

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in-person and customized.

GBP Creative

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LIKE FATHER, LIKE DAUGHTER & LEVEL III WATER DISTRIBUTION

Darcy Dion, CWP, CWWP, followed in her father's footsteps. Rick Kostyniuk worked for the City of Richmond for 36 years in various roles within waterworks and held a Water Distribution Level III Certification.

By Darcy Dion

When I was 23 years old, I wrote my first Level I certification exams in water and wastewater treatment in Fort McMurray, Alberta, after several years of working in treatment plants. I remember how excited I was to tell my dad I was finally a certified operator! After working in Fort McMurray, I moved to the Township of Langley, where I worked in Water Distribution maintenance. Later, during my time at Corix Utilities, I worked in all four disciplines across several utilities, from Whistler to Hope. As foreman at Tsawwassen First Nation, I was responsible for both the distribution and collection systems.

Over the years and throughout my career, I continued to write additional certifications as soon as I had the required time and CEUs completed. It became a personal goal of mine to achieve Level II certification in Water Treatment, Wastewater Treatment, Distribution, and Collection.

You can imagine how excited I was to tell my dad I had accomplished this goal — to which he replied, "That's great, Dars, but it's still not a Water Distribution III!" I knew my dad was proud of me, and this was his way of saying, "So, what's your next goal now that you've accomplished this one?"

Thankfully, in my role at Tsawwassen First Nation, I was eligible to collect DRC time and, by this point, I had more than enough CEUs to write. So, I continued putting my time in and working hard to obtain my Water Distribution III certification.

After writing and passing the exam, I thought it would be a fun idea to write about my dad's experiences as an operator — and mine, just a few decades later.

Darcy and Rick with a Clow iHydrant, monitoring Tsawwassen First Nation's water distribution system pressure and temperature.

Darcy: Dad, when did you start working for the City of Richmond and when did you retire?

Rick: I started working for the City September 19, 1972, and retired on my birthday, November 16, 2009, my present that year was freedom 55!

Darcy: I bounced around a bit in my career – what motivated you to stay with the City of Richmond for your entire career in the water industry?

Rick: Well, I did a lot in my time at the City. I started in sewers and did that for about a week before moving to the construction crew laying asbestos concrete pipe (that's definitely changed!). I had the opportunity to be trained to operate heavy equipment and drive truck. I worked in meters, hydrants, and valves, and I served as a foreman on various crews.

When you kids got older, I was on call for things like watermain breaks and water quality complaints. I was a relief manager, and eventually I got to work with the engineers in design. By the end of my time there, I was doing all the safety training. I was a trainer for confined space, fall protection, traffic control — you name it.

I was never bored, that's for sure, and there was always a chance to try something new. I'm really grateful the City of Richmond gave me the tools and training to do so many different things.

Darcy: That makes sense – I find I always want to be challenged with something new. What would you say the biggest challenge you had in your career?

Rick: The biggest challenge was probably balancing my job and career and being a single parent to two girls. I was always able to find daycare for you girls during normal working hours, and the city always understood if you were sick or I needed time off. I was harder on myself, when it came to things like overtime or being on-call I would turn it down until you kids were older.

Darcy: We had a great childhood, dad, you taught us a lot – and as a foreman, I could see how that could be tricky. I remember going into work with you on Saturdays sometimes while you did computer work. It was fun for us; the crew you worked with was always so nice to us. If you could go back and change anything, what would you change?

Rick: I would try harder to have been more involved with the engineering team for projects before things got rubber stamped. Most of the time, small little things, like more space in a chamber or valve placement saved us operators a lot of time in the field.

Darcy: This is still common in the industry, Dad — in treatment plants or out in the field. What has changed is operators' and engineers' willingness to work together. The walls are coming down, and there are more opportunities for operators and consultants to communicate and collaborate. It's something I drive and support in my positions on the EOCP and BCWWA Boards.
It's nice to talk shop with you, Dad — what is the biggest change you've heard of in the industry?

Rick: Firstly, the technology — I can't believe fire hydrants can collect pressure data and still be used as fire hydrants. It's amazing. The restraints that are on the market now are incredible. And the training — I know you tell me there's less emphasis on operators getting training in the industry, and that's discouraging. The industry changed so much in my 36 years, and it has changed even more since I retired. Operators really need to keep learning to do their job and maintain their CEUs for certification.

Darcy: I agree. I'm glad the regulations are in place to protect our communities; it's just a matter of more understanding and support for the regulations. What are you most proud of accomplishing in your career?

Rick: The safety training I learned, I was able to offer to all the crews at the City. Early in my career, we were cowboys — there was no safety. It was just how the entire industry was, and a lot of people, me included, got hurt. We worked hard, wanted to get things finished, and simply didn't know any better. As safety regulations changed and evolved, the City made no concessions, and we made sure we were following industry standards — and then some. I took safety seriously and felt good about making sure everyone had PPE, was following procedures, received training, and went home safely and in one piece to their families.

Darcy: What are you most proud of in my career, Dad?

Rick: Your being on the Boards for EOCP and BCWWA. You are passionate about the industry, you always have been, and I'm glad that passion isn't going to waste. Operators need training, certification, and education to do their work, it's nice to see you advocating for them. Plus, you just follow your own path, you haven't always taken my advice, and you've done things your way. Seeing what you've accomplished - that makes me very proud of you.

Darcy: Thanks, Dad – and getting my Level III Water Distribution, right?!

Rick: Yes, Dars, that too.

Darcy: Ok, Dad, if we were on a project together – what would be our biggest strength and our biggest weakness?

Rick: Our combined experience would be an asset for sure — my years of trial and error and your years with advanced technologies and tools. But at the same time, that could be our weakness, because it's hard to teach an old dog new tricks! We can be stubborn with one another, too; I mean, we can barely get through building Ikea furniture together!

Darcy: It's a father-daughter thing for sure, Dad! Anything else you'd like to add to the article?

Rick: I'm appreciative of the City of Richmond for everything I was able to accomplish in my career, and I'm proud to see Richmond is still paving the way in the industry. Whether it's water conservation, pressure management, investing in their operators, or quality infrastructure, it's nice to see they're still setting a great example for other municipalities. And keep doin' what you're doin', Dars — I'm proud of you.

I'm thankful to have fallen in love with the industry and to have followed in my dad's footsteps. His guidance and experience have helped drive my success and motivated me to be better. While much of the old guard Dad worked with has retired, it's an incredible experience to cross paths with some of them today! I worked for Dave Van De Leur at the Township of Langley and get to connect with Bryan Shepherd, Carly Smith, and Murray Barstow at the City of Richmond. I love seeing their eyes light up as they share stories about my dad — his humour, his knowledge, and his passion for the industry.

MATH FOR OPERATORS:
THE DOSE MAKES THE POISON

By Graeme Faris

The adage *"the dose makes the poison"* is attributed to the 16th century Swiss physician, Paracelsus, who has often been deemed the father of toxicology.

Today's water and wastewater treatment plant operators use products ranging from Alum to Zeolites and just about every letter of the alphabet in between. While the dosage applied will rarely, if ever, poison our customers, dosing too much or too little can impact the process, the receiving environment or the end user and, most definitely, the budget.

This installment of Math for Operators will look at the EOCP/WEP formulae used to calculate the application rate of a chemical.

$$Chemical\,feed\,pump\,setting,\ mL/\text{min} = \frac{(Flow,\ m^3/day) \times (Dose,\ mg/L)}{(Feed\,chemical\,density,\ g/cm^3)(Active\,chemical,\ \%\,expressed\,as\,a\,decimal)(1{,}440\ min/day)}$$

$$Chemical\,feed\,pump\,setting,\ \%\,Stroke = \frac{Desired\,flow}{Maximum\,flow} \times 100$$

$$Feed\,rate,\ kg/\text{day} = \frac{(Flow,\ m^3/day) \times (Dose,\ mg/L)}{(Purity,\ \%\,expressed\,as\,a\,decimal) \times 1{,}000}$$

Before we begin, lets get this percentage expressed as a decimal thing out of the way!

In mathematics, the terms percentage, percent or per cent represent a number or a ratio expressed as a fraction of 100. The term is derived from the Latin words per centum meaning "by a hundred".

Consider the fraction 25 divided by 100:

$$\frac{25.0}{100} \times 100\% = 25.0\%\ \ or\ \frac{25}{100} = 0.25$$

From the example above we see that any value expressed as a percent can be expressed as a decimal by moving the decimal point two (2) places to the left and, similarly, a decimal value can be expressed as a percent value by moving the decimal point two (2) places to the right.

Using these rules, 7.5% can be expressed as 0.075 and 0.38 can be expressed as 38%

USEFUL HINT: 1% = 10,000 mg/L = 10 gm/L = 10 kg/m³

Now, lets return to the EOCP/WEP formulae.

The XXX water treatment plant uses XXX as a coagulant and disinfects the finished water with ultraviolet light and XXX% sodium hypochlorite solution. On a day when the flow through the facility is XXX ML, calculate the feed pump setting and the daily feed rate for coagulant and sodium hypochlorite.

Dosing System

NEW EXAMS, STRONG RESULTS: AN UPDATE FOR OPERATORS

By Kim Eames

In the Spring 2025 issue of the Operator Digest, we advised that as of July 2025, EOCP would begin administering the new standardized Level I–IV examinations. These exams were developed following a comprehensive job analysis conducted in 2022–2023 and were reviewed by subject matter experts and psychometricians to establish a formal examination framework known as the Exam Content Outlines (ECOs).

The need-to-know (NTK) criteria for the new exams were derived from the ECOs and feature more clearly defined and streamlined job task statements, along with identified primary and secondary reference materials for each exam type and level.

The Need-to-Know Criteria for the level I – IV exams are available here.

Since the July 1 rollout of the new standardized Level I–IV exams, pass rates have increased across all exam types, with the exception of Water Treatment Level IV. The Water Treatment Level IV results may be influenced by the smaller number of candidates who wrote this exam during the final six months of 2025.

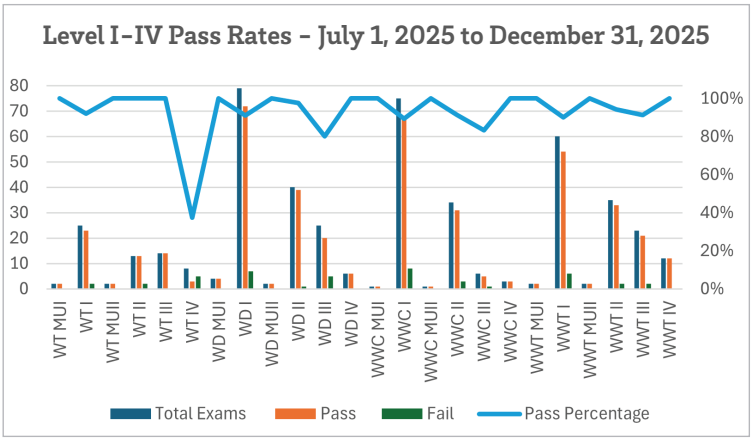

Table A – New Level I – IV Exams (July 1, 2025 – December 31, 2025)

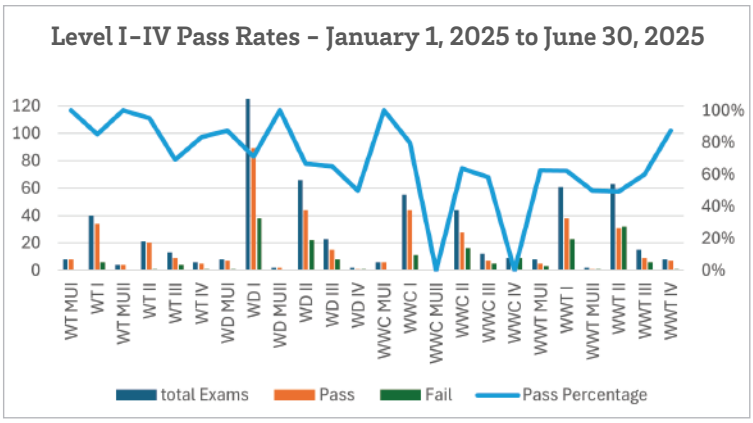

Table B – Level I – IV Standardized Exams (January 1, 2025 – June 30, 2025)

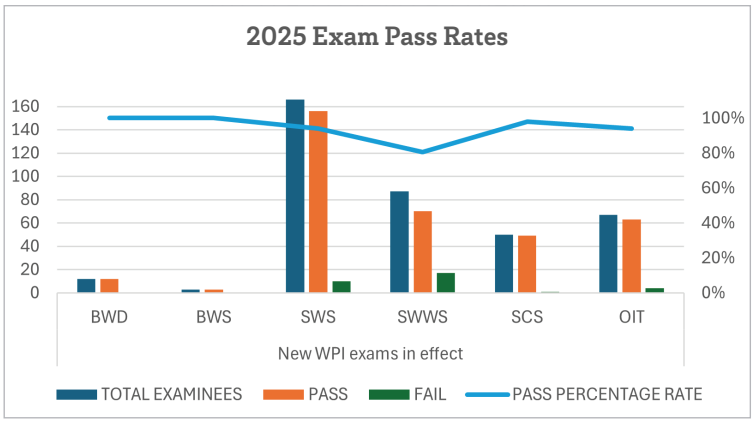

Table C – Pass Fail Rates for OIT, SWS, SWWS, BWD, SCS and BWS exams for 2025

Application Fee Rate Increase

Please be advised that the application fee will increase from **$25 to $30**, effective July 1, 2026.

The application fee has remained unchanged since 2014. This adjustment reflects the first increase in more than a decade and helps support the continued administration and processing of certification applications.

We encourage applicants to submit their applications prior to July 1, 2026, to take advantage of the current rate.

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AWS

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FEATURED ARTICLE

OPERATORS AT THE HEART OF MALAHAT NATION'S COMMUNITY INFRASTRUCTURE

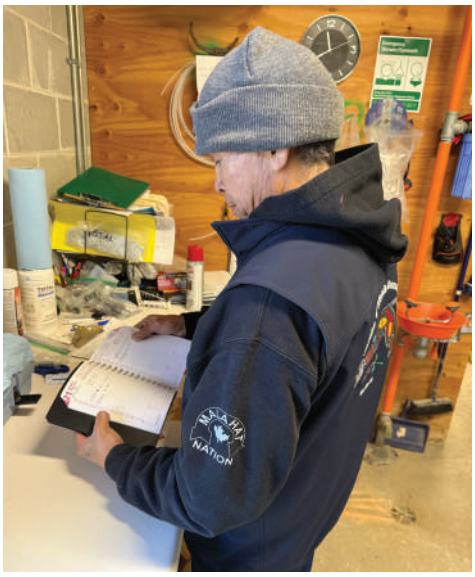
This article was prepared with the collaboration and support of the following contributors:

• Lambert Harry CWP, CWWP – Operation and Maintenance Coordinator and Lead Water and Wastewater Operator, Malahat Nation
• Donald Harry CWP – Assistant Operations and Maintenance Coordinator and Water Operator, Malahat Nation
• Anna Agnew CWP, CWWP, Circuit Rider – Jameson Water Services
• Shannon Ralfs – Executive Director of Infrastructure and Capital Projects, Malahat Nation

The Community

Malahat Nation is located south of Mill Bay, along the western shores of Saanich Inlet, approximately 40 kilometres northwest of Victoria, BC. The traditional languages spoken in Malahat are SENĆOŦEN, Hul'q'umi'num' and Samish. Nation members have family ties with the WSÁNEĆ Peoples of the Saanich Peninsula and with members of the modern Hul'q'umi'num Treaty Group as well as many ties to the nations across the border in Washington State. The name MÁLEXEŁ is derived from words meaning "caterpillars" in SENĆOŦEN—believed to reference a historical caterpillar event in the area.

Malahat ancestors were among the Indigenous peoples who encountered Europeans in the late 1700s. Like many Coast Salish nations, they suffered dramatic population losses from introduced diseases such as smallpox and experienced significant disruption to their way of life. In the mid-19th century, Malahat leaders were signatories to the Douglas Treaties (1850–1854), agreements between Indigenous communities and the colonial government of Vancouver Island that were intended to allow settlers access to land while preserving Indigenous hunting and fishing rights—though the impact of these treaties has been the subject of ongoing discussion and legal interpretation.



Donald Harry Reviewing the Logbook

In recent decades, the Malahat Nation has focused on economic development and land reclamation. In 2015–2017, the Nation significantly expanded its land base through purchases—including the large former Bamberton industrial site—tripling its holdings. These acquisitions provide space for housing, job creation, resource projects, and tourism development.

Malahat Nation is active in the BC treaty process, seeking modern agreements that recognize rights, title, and governance, as a part of the Te'mexw Treaty Association. The Nation's strategic planning "Comprehensive Community Plan" guides long-term development, cultural revitalization, and community wellness.

Today the Malahat Nation is undertaking major infrastructure investments, including a transformational water and wastewater system upgrades that will support housing, economic growth, emergency preparedness, and environmental protection around Saanich Inlet. This project is financed in part through Indigenous Services Canada and in part from a significant loan from the Canada Infrastructure Bank - reflecting the Nation's ongoing commitment to sustainable community development and environmental stewardship.

The Operators

Malahat Nation community infrastructure consists of a water treatment plant, a water distribution system, a wastewater collection system and wastewater to ground disposal. None of these could be possible without a dedicated team of EOCP Operators! **Lambert Harry, CWP, CWWP**, and **Donald Harry, CWP**, are the most critical component to keep the Malahat water and wastewater systems operating in its peak performance!

Lambert and Donald are dedicated to ensuring their community has potable and palatable water and a properly maintained wastewater collection system.

Malahat Nation has 369 people, with only 170 residing in the Malahat Nation community. The water and wastewater facilities are EOCP classified as a small water system and small wastewater system.

Malahat community small water system is a groundwater source from bedrock aquifer underlying Malahat reserve lands (Provincial Aquifer #208). There are two groundwater extraction wells. The groundwater is chlorinated with 12% sodium hypochlorite and stored in a 300 m^3 above ground reservoir. The chlorination dosage is controlled using an oxidation-reduction potential (ORP) meter.

Lambert and Donald maintain a free chlorine residual of ~0.35mg/L. They diligently monitor the system every day, and they sample for micro bacteriological parameters every week!

Seyoum Gebeyehu, Environmental Health Officer with FNHA's Environmental Public Health Services supports Malahat Nation and works with Lambert Harry and Donald Harry: "Lambert and Donald deeply care about the quality of drinking water supplied to members of the Nation. They listen to concerns that members of the Nation may have regarding the quality of drinking water and offer assurance that water is being regularly tested and safe to use.
Lambert and Donald have been consistently submitting water samples for bacteriological analysis above and beyond what is required. Their ability to go above and beyond to ensure the safety of Malahat Nation's drinking water system has been outstanding.
Lambert and Donald both communicate effectively with their Environmental Health Officer and Circuit Riders when they experience operational challenges and seek advice."

Due to the aging infrastructure and capacity limits, restricting ability to support additional housing and economic development Malahat Nation is building new, modern water and wastewater facilities to replace aging infrastructure and support future growth!

The Future

A major water treatment plant upgrade is underway to provide reliable, safe potable water for the community and to support new housing and economic development. The existing plant is around 33 years old and had reached capacity.

Construction includes modern treatment facilities and expanded storage to improve water quality, safety, and capacity — including fire suppression flows and emergency reserves. The project is being funded largely through a $57.6 million loan from the Canada Infrastructure Bank (CIB) in partnership with Indigenous Services Canada, who contributed $15.7 million to the project, Malahat Nation and the newly formed Malahat Utility Inc, who will own and operate the new system, with Lambert and Donald at their side.

Shannon Ralfs, Executive Director of Infrastructure and Capital Projects, is overseeing the construction of the new system:
"Operational Improvements are upgrading from the older system to a modern treatment to allow more robust disinfection, storage, monitoring, and distribution that align with regulatory and public health expectations.
The opportunity for Malahat Nation to expand the system to serve not only the growth in community but also have access to the resources and infrastructure that supports new development has created a really exciting era for the nation.
Without having had the ability to build any new homes in community since 2019, due to the current system being at capacity, knowing that this project will support this and future generations of MÁLEXEŁ mustimuhw (people) to come home, and development will allow a thriving community that can live, work and play all in the safety of their home community."

While final system design details are part of the ongoing construction and commissioning phases, the emphasis is on delivering clean, reliable potable water and expanded capacity that meets growing community needs. This is important for Malahat Nation not only for water quality but also for community potential; this will enable housing construction and economic initiatives on reserve lands and most importantly improve fire flow capacities and emergency water reserves.

The upgrades system Malahat Nation is currently building:

- Construction of a new, modern water treatment facility
- Expanded storage capacity, with 2 new 1,000 m^3 storage capacity each
- Improved system reliability, monitoring, and redundancy
- Designed to support future community growth and fire flow requirements
- System operations align with B.C. drinking water standards and First Nations community infrastructure guidelines
- Upgrades are intended to enhance compliance, operational resilience, and long-term sustainability

Malahat Nation Wastewater System is a gravity collection system with two sewer lift stations pumping to a distribution tank and ground disposal. The collection system is from residential homes and community facilities within Malahat reserve lands.

Aging collection infrastructure with limited capacity for additional connections is why an upgrade is required. The upgraded wastewater treatment system will include:

- Secondary treatment designed to meet regulatory effluent quality requirements via an SBR
- Preliminary screening
- Biological treatment
- Residuals management
- Clarification
- Disinfection prior to discharge

The effluent discharge will be to ground on Malahat Nation reserve through a rapid infiltration basin system, with a minimum of Class C effluent prior to discharge to ground. This element of the project is currently under final design with the team.

Capacity constraints limiting housing growth and economic development, construction of a new, modern wastewater treatment facility will:

- Increase hydraulic and organic treatment capacity
- Enhanced treatment performance and process reliability
- Improve resilience to peak flows and climate-related events

From a regulatory point of view, it will be designed to meet or exceed applicable federal and provincial wastewater effluent standards, including protection of receiving ground waters. It will support long-term compliance, environmental stewardship, and operational sustainability.

Lambert and Donald will be trained to higher level EOCP training for the new infrastructure. They will have operator-adjustable process settings for routine monitoring of flows, solids, and treatment performance and the wastewater will receive final disinfection prior to discharge to the receiving environment.

Effluent monitoring will require routine sampling to confirm compliance with permit limits for pathogens, suspended solids, and biochemical oxygen demand (BOD) to protect the in ground discharge, requiring careful operational control to protect sensitive coastal ecosystems.

The sludge handling process will stabilize residuals removed from site and transported off-site for further treatment or disposal. Operator responsibilities will be sludge volume tracking, coordination with hauling and disposal contractors and as always record keeping to meet regulatory requirements for due diligence!

Power, controls and monitoring will be backed up with standby power capability planned as part of system upgrades to maintain treatment during outages. Supervisory Control and Data Acquisition (SCADA) and telemetry systems will enable real-time monitoring of key process parameters and alarm notifications for pump failures, high levels, and system faults. These systems will require Lambert and Donald to be on standby.

The future targets of the new wastewater treatment facility will allow:

- Increased hydraulic and organic capacity
- Improved process reliability and redundancy
- Enhanced operator safety, access, and maintenance features
- Designed to accommodate future housing growth and climate resilience
- Regulatory & Operational requirements will be in accordance with applicable federal and provincial wastewater regulations

Emphasis on operator training, certification, and preventive maintenance to support long-term compliance and environmental is of utmost importance.

New 1,000 m^3 Water Reservoirs

New Wastewater Treatment Plant Construction

STATISTICS

October 1st – December 31st, 2025

EOCP
Environmental Operators Certification Program

EXAM STATISTICS

378 exams taken

107 exam sessions

FACILITIES

97 facilities added or upgraded

CONTINUING EDUCATION UNITS (CEUs)

1,465 Operators submitted CEUs

2,474 CEUs earned

DEFINITIONS

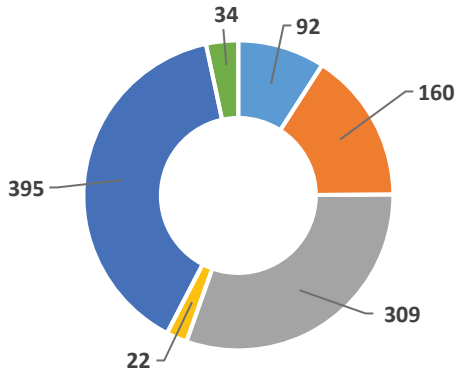
WT	Water Treatment
WD	Water Distribution
WWC	Wastewater Collection
WWT	Wastewater Treatment
OIT	Operator In Training
BWD	Bulk Water Delivery
BWS	Building Water System
SWS	Small Water System
SWWS	Small Wastewater System
SCS	Stormwater Collection System
MU	Multi Utility

OPERATOR CERTIFICATIONS

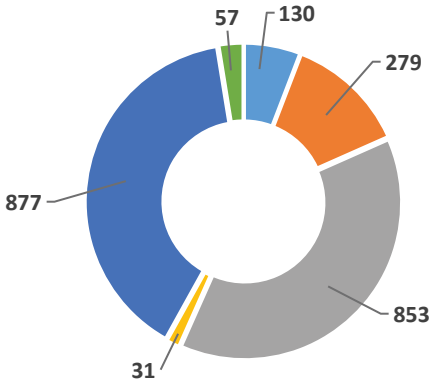
- MU II
- MU I
- IV
- III
- II
- I

OPERATOR CERTIFICATIONS

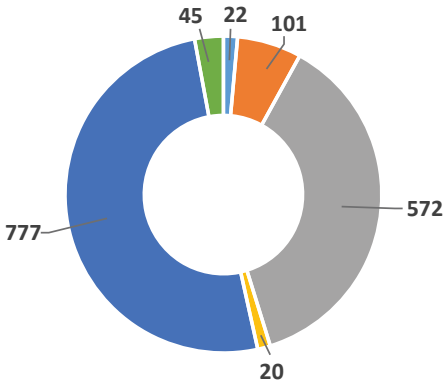
WT OPERATOR CERTIFICATIONS

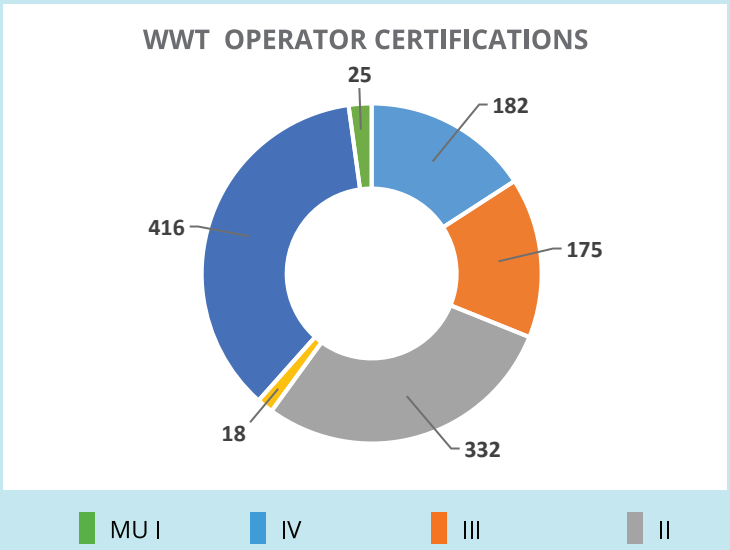


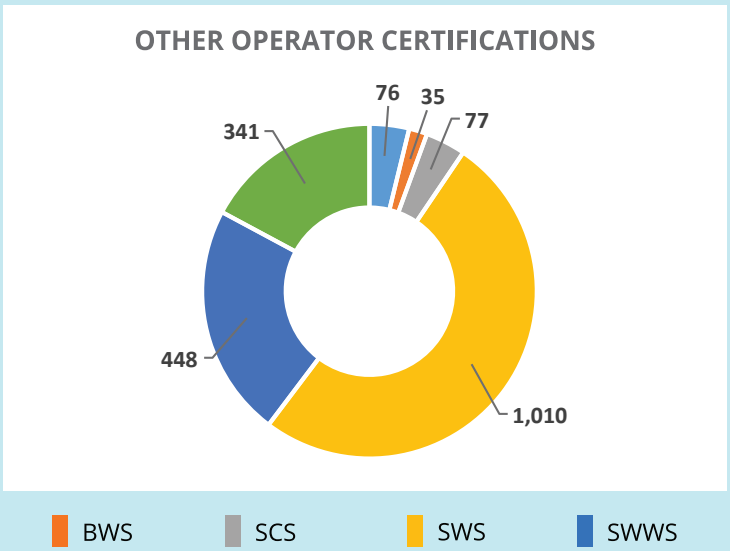
WD OPERATOR CERTIFICATIONS



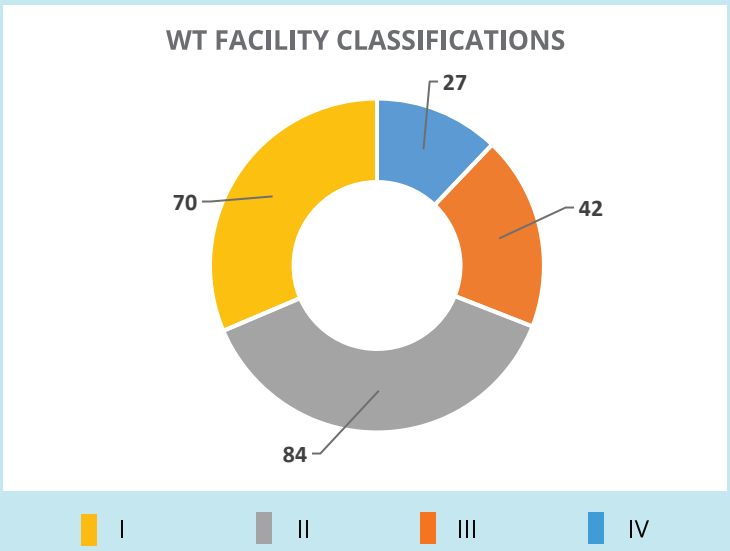
WWC OPERATOR CERTIFICATIONS

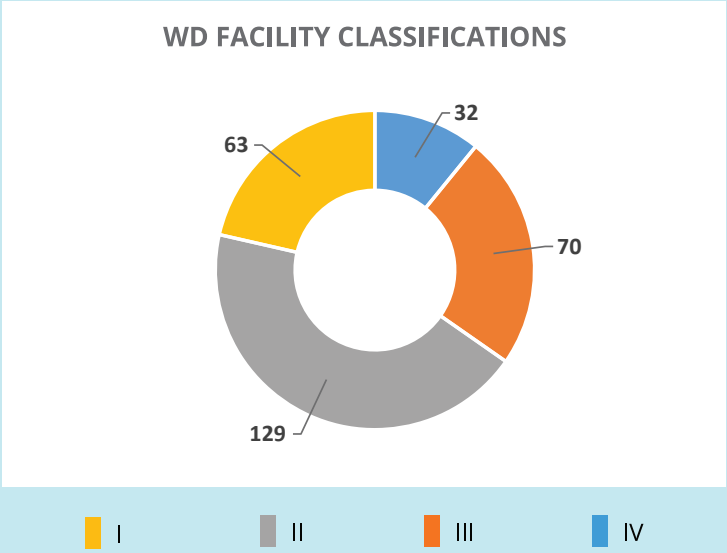


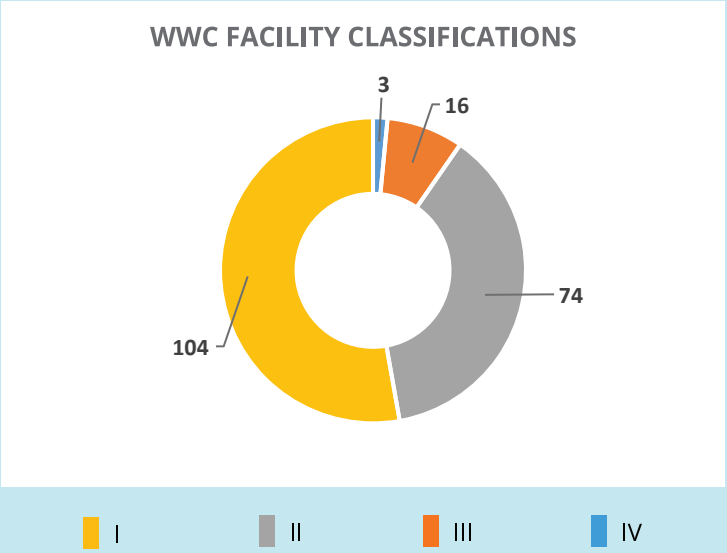


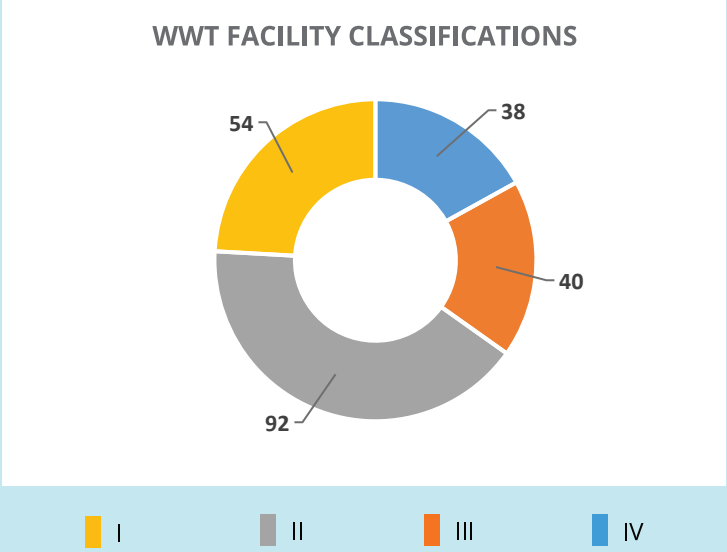


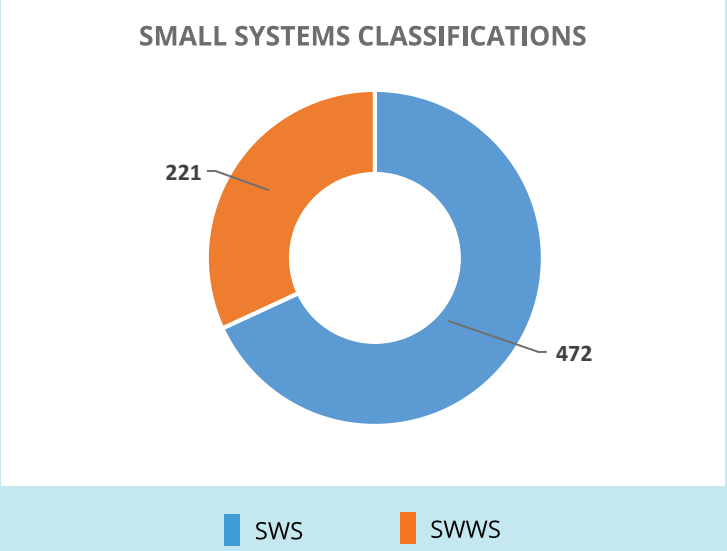
FACILITY CLASSIFICATION











A new CEU reporting period began on January 1st! Please check your Operator status by logging into your profile at https://crm.eocp.ca Choose **ACCOUNT** to see if your 2026 dues have been paid and **LEARNING STATUS / CEU** to see if your CEUs are up to date.

If your profile shows as Not Certified this means you haven't paid your 2025 dues and/or submitted CEUs.

CEUs can be added to your profile by choosing **Action > Add Course Taken** under the learning column. Alternatively, you can forward your course completion certificates to eocp@eocp.ca

If your profile shows as Certified your 2026 dues are paid, and you've met the CEU requirements for the 2024-2025 reporting period.

Please look for training opportunities from your preferred training providers or look for options in the EOCP CRM at:

https://crm.eocp.ca/ManageCourses

Free events are listed in the events calendar:

https://eocp.ca/events-calendar

EOCP2026

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Testimonials from 2025 Attendees:

"Another great EOCP conference in the books!"

"Another fantastic turnout at this year's Environmental Operators Certification Program EOCP2025 conference in Richmond!"

"The Monopoly challenge was a well executed and engaging activity. I sincerely appreciated the opportunity to connect with so many professionals a truly wonderful experience. See you all again at the 2026 event!"

"I liked the new venue, and the food was great as always. "

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