



Crane Certification and Licensing Authority

# 2022 Annual Report





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*BC Crane Safety provides health and safety leadership for crane and hoisting operations across diverse industries in all regions of British Columbia.*

*Photography\* by Fraser Cocks, Clinton Connell, Roberta Sheng-Taylor. Images of Directors supplied by themselves. Writing and Editing by Michelle Harding. Design and Layout by TAP Graphics Ltd.*

\* Stock imagery also utilised.

## Message from the Chair

Jason Gilmore



This marks my first full year as Chair of the BC Crane Safety Board of Directors and I'm more excited than ever about the bright future for our industry. In 2022 we welcomed three new directors – Craig Longmuir, Eric Nipius and Gary Klynsoon – all of whom bring years of expertise and a serious commitment to our vision of safe and effective crane, hoisting, and rigging operations throughout BC.

We also said goodbye, at least for now, to three valued directors who have contributed their unwavering passion and participation to the Board. Thank you to Chris Grajek, Ryan Burton and Shawn Lynch for many years of dedication.

Our tremendously talented staff and stakeholder partners have set us up for continued success. With new initiatives like the SkillRecord Passport pilot Plan-for-10 project and a refreshed website that makes it easier for new operators to get certified, we're in a great position to keep moving forward.

I'm committed to encouraging more young people to become professional crane operators. It's a truly rewarding career that can lead to more opportunities than I ever imagined when I started out. And in the current labour market those opportunities keep expanding.

Finally, I want to thank Paul Smythe from the Yukon WSCB. Paul has walked side by side with us since the early days of the development of the BC crane operator certification program and has made a huge impact on the health and safety of crane operations in BC and the Yukon. Best wishes for a happy retirement, Paul!

Welcome 2023! It's going to be a great year.



## Message from the Executive Director

Clinton Connell



2022 saw the industry continue on its busy trajectory, with many pandemic-related protocols behind it. We've also seen positive and welcome changes to the way we work and do business. Focus on mental health, work-life balance, and the need for increased training capacity of our aging and retiring workforce are some key elements receiving renewed attention.

The crane industry is as engaged as ever, and there are ongoing conversations around certification, training, and new regulations such as the use of zone-protection and anti-collision technology. Our stakeholder community has grown to include municipalities, associations, and licensers from outside BC. The crane community is a global one and we are always looking for ways to share and adopt best practices when it comes to safety.

Pilot projects were launched in 2022, such as Plan-for-10, which will tie into the future ability of operators and employers to conduct competency assessments for new and training individuals, as well as recertification.

Our new location in the Fraser Valley has served us well as we return to in-person Board meetings. BC Crane Safety also welcomed a new team member in 2022 — Albert Wang, P. Eng; HSE Advisor.

The unique partnership between industry and WorkSafeBC allows us to continue our collective focus on raising the standard of safety within our sector. I would like to acknowledge the work of all involved – our staff, our stakeholder partners, and our volunteer Board of Directors – in helping make 2022 a success. As we shift from health challenges to economic ones, I wish everyone the best for a safe and prosperous 2023!



# PART 1 – WHO WE ARE

## Crane Certification & Licensing Authority for BC

BC Crane Safety was formed in 2005 to develop a certification program for crane operators in British Columbia. At that time, there was no common standard to ensure that crane operators had met minimum competencies. The result was some very serious incidents that cost not only money but also workers' lives. That's why BC Crane Safety was formed.

We are BC's crane operator certification authority and administrator as designated by WorkSafeBC. We provide leadership and support for health and safety in crane hoisting operations and serve as an advisory body for regulatory matters. We collaborate closely with industry, labour, regulators and governments to develop, maintain and implement standards for assessments and certification.

We are primarily funded by WorkSafeBC. We thank them for their continued support and commitment to collaboration and innovation.

Since crane operator certification became mandatory in 2007, more than 21,000 operators of 11 crane types have earned BC Crane Safety credentials. These highly skilled professionals have gone on to vastly improve the safety record of crane operations in BC. Our program is so successful that we have formed partnerships with other regions in North America and Europe to recognize the value of BC crane certifications and the achievements of the operators who hold them.

Our top focus is, and will always be, to promote health and safety for workers, workplaces and the public. That's why we continue to develop resources and "next practices" to help support all our stakeholders in the many industries that benefit from safe, effective crane operations.



We are BC's crane certification authority. We oversee a third-party competency-based certification system that has become a model for jurisdictions around the world. We are in the process of achieving world-class status through ISO/IEC 17024 alignment.

**ISO/IEC 17024**

We work with industries, governments and health and safety authorities within BC, across Canada and internationally to identify trends and "next practices" that impact all our stakeholders including the many industries that benefit from safe, effective crane operations.

*Crane Certification and Licensing Authority*

# WHO WE ARE

Our oversight role means we are not a training organization or an assessment body. Utilizing a third-party assessment process, we avoid conflicts of interest and maintain quality assurance. This means we validate and issue credentials impartially.

We set and maintain competency-based assessment standards and protocols for 6 levels of certification and for eleven crane types.

**6**

We manage the certification of operators who can demonstrate competency, no matter how and where they gained their skills.

We work alongside Fulford Certification, the third-party service provider that facilitates exam delivery and conducts practical assessments.

We are advocates and promoters for the health and safety of worksites, workers and the public.

## Our Guiding Principles

The **vision** of BC Crane Safety is:

Safe and effective crane, hoisting, and rigging operations throughout British Columbia.

The **mission** of BC Crane Safety is:

To engage with our stakeholders concerned with cranes, hoists and rigging, including employers and workers, across multiple sectors to support safe crane and hoisting operations in British Columbia.

The **mandate** of BC Crane Safety is shown in the graphic below.

**Organizational objectives** include:

- Promoting accident-free crane operations throughout British Columbia.
- The establishment in British Columbia of a cost-effective crane operator qualification regime that:
  - Involves documented proof of competency
  - Includes theoretical and practical assessments
  - Is accessible and available at all levels of industry.
- Promoting the attractiveness of the industry to prospective entry-level crane operators and the timely achievement of their qualifications.
- Serving as an industry advisory body to agencies in a position to oversee qualifications and standards.

- Serving as an advisory body to the Workers' Compensation Board of British Columbia (WorkSafeBC) regarding regulatory matters and other matters related to occupational health and safety as they impact the crane industry.

### Our Values

- Leadership
- Stewardship
- Transparency
- Partnership
- Professionalism



## Our Board of Directors

The BC Crane Safety Board of Directors is a stakeholder Board. That means only people who own cranes, operate them, or employ crane operators are allowed to be voting members. Our Board also includes non-voting representatives from labour, WorkSafeBC and the Yukon Workers' Safety and Compensation Board.

Our Board represents a cross-section of stakeholders including:

### Crane types:

- Mobile Cranes
- Tower Cranes
- Boom Trucks
- Self-Erect Cranes
- Overhead cranes

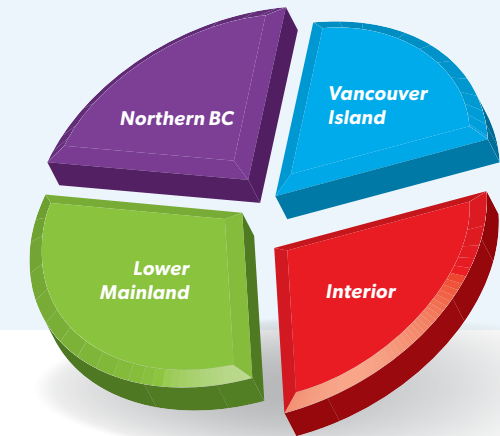
### Industry sectors:

- Heavy Industry
- Engineering
- Oil and Gas
- Rigging
- Construction and infrastructure manufacturing (overhead)
- Power and Utilities
- Marine and Piledriving
- Industrial moving
- Training

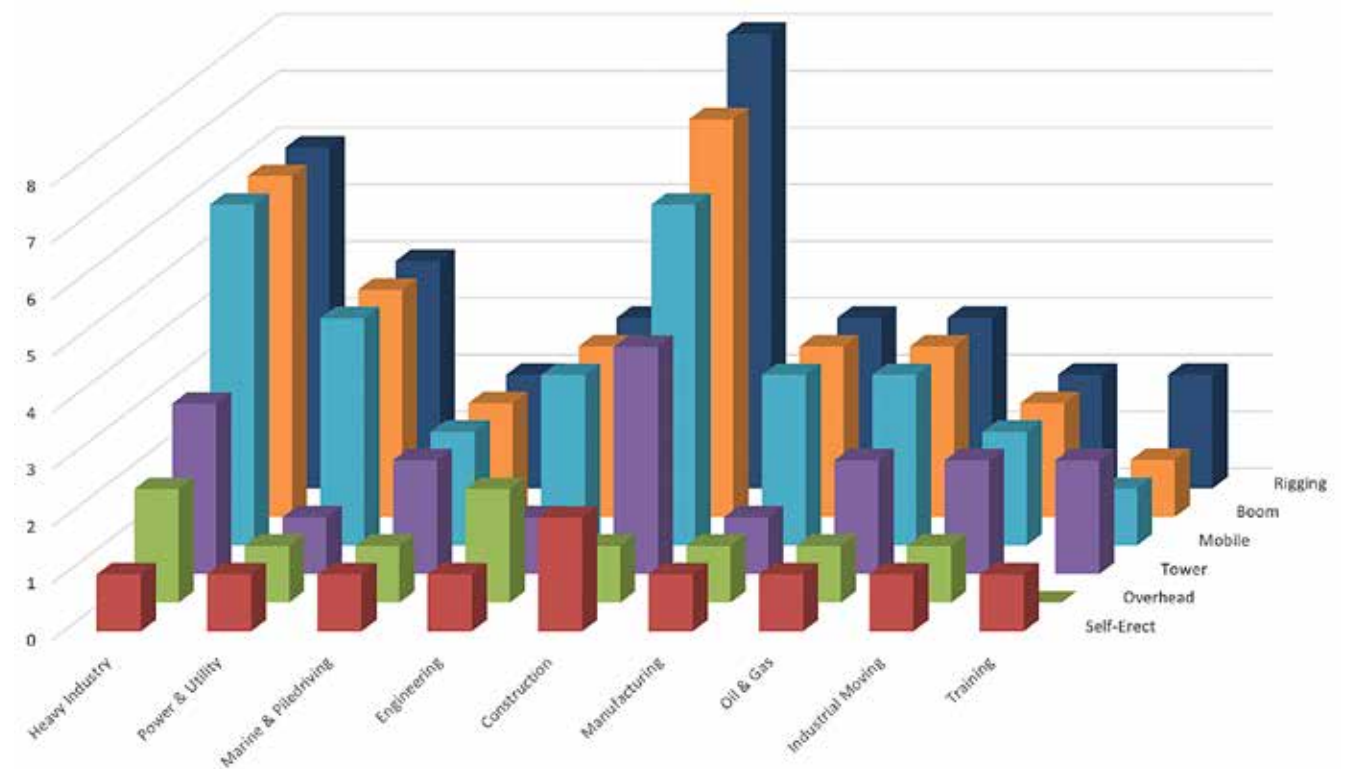
### Regions in BC:

- Lower Mainland
- Interior
- Vancouver Island
- Northern BC

### Board Representation by Region — 2022



### Board Member Representation by Sector and Equipment Type — 2022



## Our Board of Directors



**Jason Gilmore** (Chair)

**Phoenix Truck and Crane,  
Coquitlam, BC**

Jason Gilmore is an active crane operator and equipment owner. He is a representative for Phoenix Truck and Crane. Phoenix is a safety leader and COR-certified company providing general freight and crane services throughout the Lower Mainland for more than 30 years. Jason joined the BC Crane Safety Board of Directors in 2016 and stepped into the role of Chair in 2021.



**Jeff Gorham** (Vice Chair)

**International Union of  
Operating Engineers  
Local 115, Burnaby, BC**

Jeff Gorham is Administrator at IUOE Local 115 Training Association (IUOETA), a national leader in delivering training supporting a range of industries including road building and heavy construction, mobile crane operation and asphalt paving. The IUOETA also participates in the development of national occupational standards for heavy equipment operation. With this background, Jeff has been contributing his expertise and knowledge to BC Crane Safety through his service on the Board since 2016.



**Don Stevens** (Secretary/Treasurer)

**Teck Metals Ltd., Trail, BC**

Don Stevens is a professional engineer working for Teck Metals Limited in Trail, BC. He obtained his mechanical engineering degree from the University of British Columbia. Don spent 12 years working in a design office prior to moving to Teck Trail Operations. He now oversees the crane and lifting program for the site. Teck Trail Operations has a variety of lifting equipment ranging from mobile cranes and bridge cranes to portable hoists and below-the-hook lifting devices. Don joined the BC Crane Safety Board of Directors in 2019.



**Ryan Stewart**

**Arsenal Engineering,  
Abbotsford, BC**

Ryan Stewart is a professional engineer originally from northern BC. He obtained his mechanical engineering degrees (BSc and MSc) from the University of Alberta. After completing his degrees, he worked in northern Alberta for a few years before moving to the Lower Mainland. Ryan started Arsenal Engineering Ltd. at the end of 2014. Arsenal provides engineering consulting and non-destructive testing services with a focus on construction and lift equipment.



**Steve Gibson**

**Kiewit, Edmonton, AB**

Steve Gibson is Project Crane and Equipment Manager at Kiewit. With more than 20 years' experience as a crane operator, equipment maintenance supervisor and trainer, Steve has had the opportunity to get to know many areas of the crane industry including lift planning, rigging, scheduling, inspecting, incident investigation, piling operations, tower cranes, barge mounted cranes, heavy lift and transport and assembly/disassembly operations. Steve sits on multiple crane committees across Canada and has served as a valued member of the BC Crane Safety Board of Directors since 2015.



**Matthew Blackwell**

**RKM Crane Services, Langley, BC**

Matthew Blackwell has been actively involved in the crane and hoisting industry for more than 20 years. He started in the residential sector as a tower crane operator and then moved into the mobile crane industry. As an apprentice, he worked through several training programs, becoming trade-qualified in both tower and mobile crane operations. Today, he is the General Manager of RKM Crane Rentals in the Lower Mainland. Matthew joined the BC Crane Safety Board of Directors in 2020.

## Our Board of Directors



### Dennis Bamford

Maxum Cranes, Vancouver, BC

Dennis Bamford started as a mobile crane operator in 1988 after completing a 7-year tour with the British Army. For the next 14 years Dennis was deployed in Europe and South America to run all terrain and crawler cranes. In 2002, he became a contract lift supervisor specializing in planning complex lifts. In 2014, he moved to Canada and worked with GWIL in sales and safety to support major projects such as the Sea to Sky highway and the No 1 acid plant at Teck Metals. He is now the General Manager at Maxum Cranes, a safety leader specializing in the motion picture industry. Dennis joined the Board in 2020.



### Craig Longmuir

Fraser River Pile and Dredge, New Westminster, BC

Craig Longmuir has been working with FRPD since 1998 and is VP of the Construction Division. Craig holds a diploma in Engineering Technology from BCIT and a certificate of Management Excellence from UBC. He serves on the Program Advisory Committee for the civil and structural department at BCIT. His unique expertise in the marine sector and in managing large infrastructure projects makes him a valuable addition to the BC Crane Safety Board which he joined in 2022.



### Eric Nipius

Oxford Builders Supplies, Abbotsford, BC

Eric Nipius is Director of Operations at Oxford Builders Supplies which specializes in the assembly and dismantling of tower cranes and construction hoists, as well as related matters such as electrical, transportation, formwork, training, below-the-hook lifting devices, propane fuel supply, temporary heat, as well as various construction equipment rentals. He has served as Service Manager, Crane Chargehand, and lead technician for Leavitt Cranes and shift mechanic at a BC sawmill. He is a Red Seal Industrial Mechanic (Millwright). Eric joined the BC Crane Safety Board in 2022.



### Gary Klynsoon

NorLand Group, Burnaby, BC

Gary Klynsoon is Senior Vice President – Industrial Services with NorLand Limited. His career in the crane, rigging and industrial moving business includes previous tenures at Apex Industrial Movers, GWIL, Eagle West, EW Wind Energy and SureSpan. Gary is a Red Seal-certified crane operator and a Professional Project Management leader, with more than 30 years of experience in strategic planning, project management, team development and a focus on safety-first operations. Gary joined the BC Crane Safety Board in 2022.

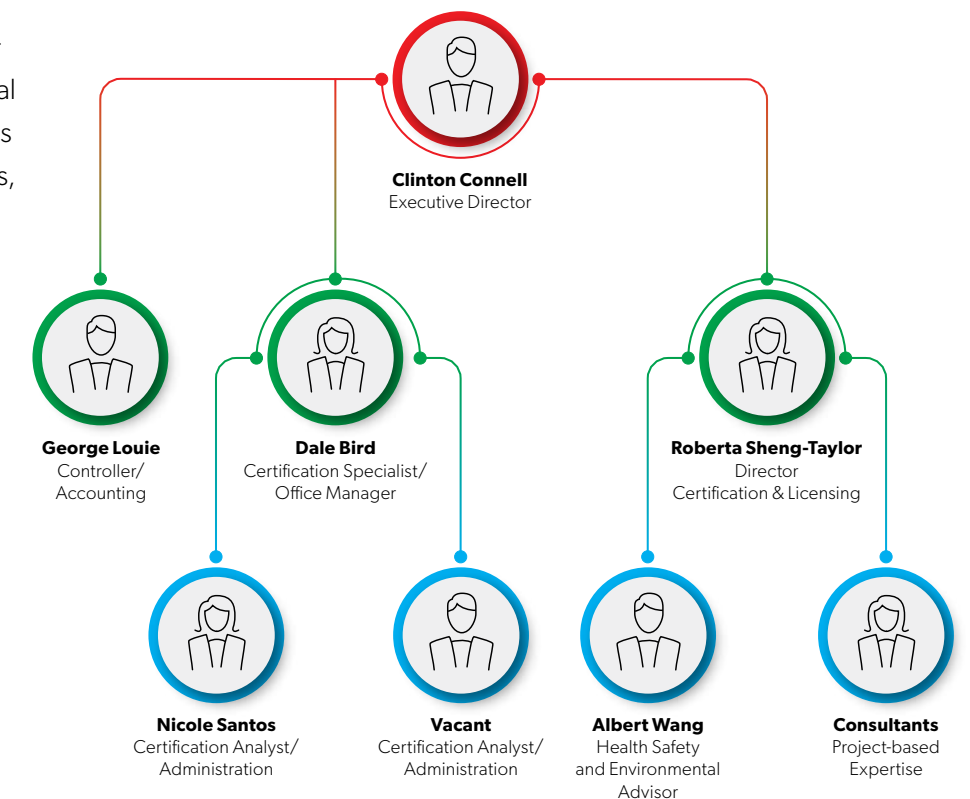
## Past Board Members

BC Crane Safety is grateful for the valuable contributions of our past Board members. They have seen us grow from just an idea in 2004 to a world-class certification authority now. All our past Directors have been driven by their commitment to developing and delivering a practical, effective crane operator certification system that works for everyone and maintains the highest global standards of safety and competence.

The BC Crane Safety success story would not be possible without their leadership and expertise.

## Our Staff

We're very proud of our wonderful team of talented professionals. These are the people who keep us going every day, managing everything — whether it's telephone enquiries, processing assessment records and applications, finances, or new health and safety initiatives to support employers and operators in the field. That's just a small fraction of what our staff accomplishes every day. We appreciate their dedication, expertise and hard work and we thank them.



## PART 2 – WHAT WE DO



### We manage the Certification Program for Crane Operators in BC

The BC Crane Safety crane operator certification program was originally developed over a two-year period of consultation that included employers, crane rental companies, operators, regulators, and representatives from the International Union of Operating Engineers. Contributors represented every region of the province and came from a broad

range of industry sectors including construction, primary resources, utilities, manufacturing, industrial moving, and oil and gas. We continue to work with our stakeholders to ensure our certification program is up-to-date and responsive to industry needs.

### We participate in Standards Development

BC Crane Safety has developed and filed 13 crane-related occupational competency standards with WorkSafeBC. These standards are reviewed by technical experts and are updated regularly to acknowledge revisions to regulatory requirements, advances in equipment and technology, and emerging or new safety hazards.

### We are a Health and Safety Association

BC Crane Safety works closely with crane-related health and safety representatives and the provincial Occupational Health and Safety regulator to address significant hazards and to publish safe work practices, checklists and other tools to support crane employers, contractors, supervisors and operators.

professionally no matter where or how they gained their skills. This structure is supported and designed by our stakeholders and is unique in Canada.

Crane operators certified by BC Crane Safety are among the most highly skilled in the world. We have established relationships supporting labour mobility between BC, the USA and Europe. BC's operators are in global demand and can enjoy access to work in a growing number of other countries. Operators with credentials from other jurisdictions outside BC can apply to have their certificates recognized by BC Crane Safety so they can join the labour market here.

## The Certification Journey

### 01

#### Certification Journey Begins

BC Crane Safety is incorporated as the certifying body for BC crane operators for various crane types throughout the province and across industries.

BC's OHS (Occupational Health and Safety) Regulation requiring certification goes into effect. More than double the original estimate were received and processed (10,000 in total).

2004

WorkSafeBC holds the first-ever Crane Safety Conference to invite stakeholder participation in the development of a new competency-based certification program.

2005

BC Crane Safety holds dozens of consultation workshops that include participants from WorkSafeBC, Yukon Workers' Health and Safety Board, the ITA (Industry Training Authority), organized labour and 52 crane owners, operators and employers.

2006

2007

The first theoretical and practical assessments are piloted with a group of 125 participants. By the end of the year, the first post-pilot practical assessments are conducted in Yukon Territory.

### 02

#### Certification Underway

Crane operator certifications reach 4,400 with almost 8,000 operators actively engaged in the assessment process. BC Crane Safety launches SkillRecord, an online logbook for operators to document their hours and experience.

More than 10,000 crane operators are certified by August. BC and Alberta agree to mutually recognize operator certifications. The Canadian Hoisting and Rigging Safety Council (CHRSC) begins work on a framework for a national certification standard.

2009

The number of operators certified in BC and the Yukon under the new system reaches 500 by April. By September, that number rises to 1,450.

2010

BC Crane Safety strives to meet the February deadline by which all operators in BC must complete the assessment process.

2011

2012

A mutual recognition process with Washington state is piloted for approval.

2013

## Certification

BC Crane Safety was incorporated in 2005 to create a certification program for crane operators in British Columbia. We have worked with more than 50 different industries that use cranes to develop a world-class program. We also work with regulators, crane operators, owners, governments and many others. BC Crane Safety oversees this program.

Our program is competency-based. That means our program includes theoretical and practical tests. Crane operators are required to regularly demonstrate what they know and can do safely and



# 2022 HIGHLIGHTS

## Certification by the Numbers 2022

Thanks to the help of our assessment partners, Fulford Certification and SkilledTradesBC (formerly the Industry Training Authority), there are more than 21,000 credentialed crane operator currently registered in BC. There are about 1,700 new operators progressing through the system, working to earn their certificates every day.

In 2021, the numbers of certificates issued started to climb back up to pre-pandemic levels. We saw this trend continue in 2022 thanks to the hard work of assessors, trainers, supervisors, employers and the operators themselves who clearly recognize the value of certification.

BC Crane Safety issues six levels of credentials for 11 different crane classifications.

**Full Scope** certification means the person can operate the type of crane they were assessed on and any classified as being below that designation. There are no other restrictions.

The **Provisional** designation is intended for trainees and apprentices. It allows operators to gain experience under supervision until they get their Full Scope certification.

The **Limited Scope** designation means that the operator is only permitted to operate a crane at a specific address for a specific employer. A change in employer means the operator needs a new certificate.

The **Crane Mechanic** credential is intended to allow mechanics to operate a crane for the purpose of repair. No commercial lifts are allowed.

The **Letter of Permission** is meant to allow a prospective operator to find out if operating a crane seems like a good fit before going on to get a Provisional for training. Direct supervision is always required.

**Credential Recognition** means that an operator from outside BC has had their out-of-province credential assessed and has met the requirements for certification by BC Crane Safety.

## The Certification Journey

### 03 Certification Program Recognition

A Memorandum of Understanding (MOU) is signed with Ireland, expressing the intentions of Ireland and BC to mutually recognize mobile and tower crane operator credentials. A Mutual Recognition Agreement (MRA) is signed recognizing US certifying bodies.

BC Crane Safety enters into an agreement with the Government of Canada to pursue an MRA with the European Union under the Canada-European Union Comprehensive Economic and Trade Agreement (CETA).



A mutual recognition process with Washington state is established. The CHRSC steps up efforts to promote the harmonization of certification standards across Canada.

Fed OSHA, the US Federal Occupational Safety and Health Administration, invites BC Crane Safety to present information about the success of BC's certification program. The SkillRecord logbook is expanded to include Yukon Territory.

BC Crane Safety joins the expert board of ECOL/Esta to provide input into the establishment of an EU-wide standard and certification system. WorkSafeBC and BC Crane Safety co-host the first tower crane conference in more than a decade.

### 04 Certification Excellence

BC Crane Safety has 11,877 active certified crane operators on record. A new Executive Director starts in August. Work to develop new standards for rigging and telehandler operations is stepped up.

The focus on high-risk crane operations with WorkSafeBC continues, leading to the production of numerous new safe work practice resources, a new SkillRecord Passport pilot project, and the development of other tools. BC Crane Safety relocates to Surrey, BC and launches a new website.

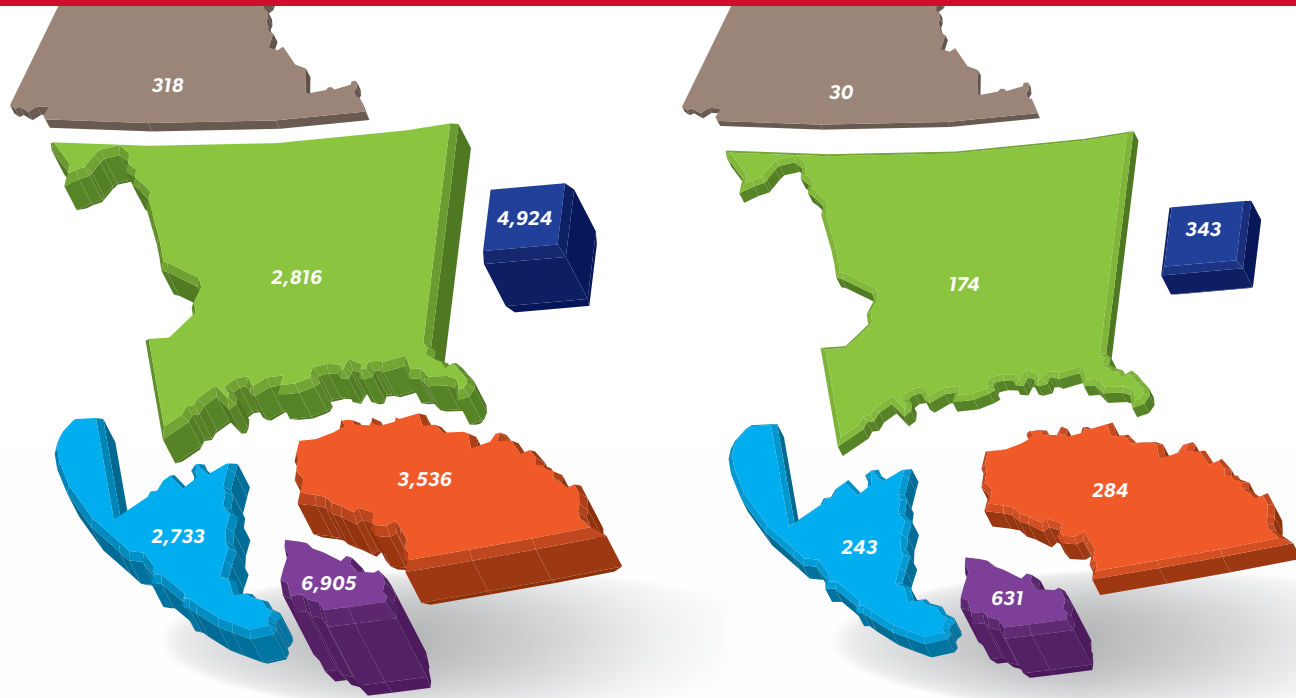


An MOU is signed between BC and ECOL to facilitate the mutual recognition of mobile crane operator certifications. BC Crane Safety and WorkSafeBC co-host another tower crane conference building on the success of 2018. BC Crane Safety begins to pursue International Standards Organization (ISO/IEC 17024) accreditation as a certifying body.

BC Crane Safety builds a robust 3-year work plan to address high risk crane operations in alignment with WorkSafeBC's Crane and Mobile Equipment Initiative.



# Certification by the Numbers 2022



Total Active Registrations by Region — 2022

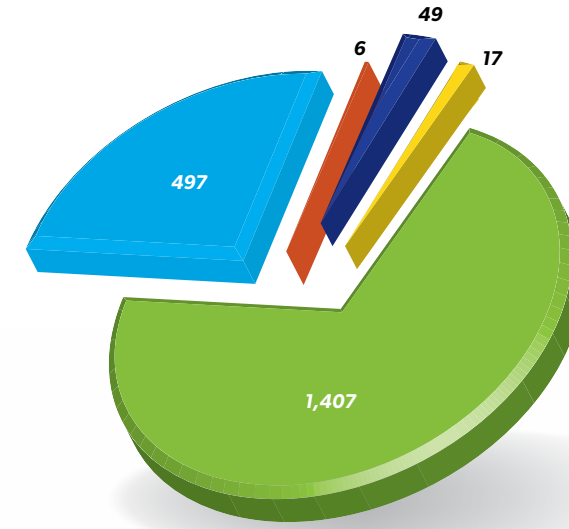
- Vancouver Island
- Interior
- Lower Mainland
- Northern BC
- Yukon
- Other Jurisdictions

In 2022, BC Crane Safety had 21,232 active crane operator registrations on record

New Registrations by Region — 2022

- Vancouver Island
- Interior
- Lower Mainland
- Northern BC
- Yukon
- Other Jurisdictions

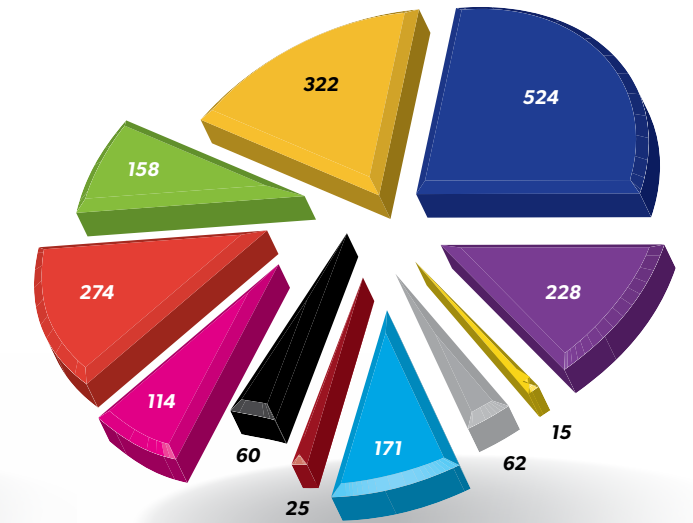
Crane operations touch industries in all parts of BC, the Yukon and beyond. BC Crane Safety staff processed 1,705 new registrations in 2022.



Certifications by Credential Type — 2022

- Full Scope
- Provisional
- Limited Scope
- Crane Mechanic
- Letter of Permission

In 2022, BC Crane Safety issued 1,976 crane operator credentials across all levels, classifications and regions.



Certifications by Crane Type — 2022

- Folding Boom 10 tonnes & under
- Folding Boom 22 tonnes & under
- Folding Boom unlimited
- Stiff Boom 20 tonnes & under
- Stiff Boom 40 tonnes & under
- Stiff Boom unlimited
- Mobile Crane 20 tonnes & under
- Mobile Crane hydraulic 80 tonnes & under
- Mobile Crane
- Self-Erect Tower Crane
- Tower Crane

The Crane Mechanic and Letter of Permission designations are not tied to a particular type of crane and are therefore not included here.

## Spotlight on Dale

### BC Crane Safety Certification Specialist and Office Manager

Dale's in-depth, detailed knowledge of the BC crane operator certification program comes from years of experience helping operators and employers navigate the system.

She works with the office team to maintain certification records, verify SkilledTradesBC (formerly ITA) challenge applications, verify credentials from other jurisdictions, and field questions from employers, operators and the public. The team supports the Executive Director, the Director of Certification and Licensing, as well as the Board of Directors and various committees.

When asked about the sorts of questions she receives at the office, she replies, "We get a lot of questions, but there are two we get every day. One is from operators who were certified in another jurisdiction and want to know what they need to do to be able to operate cranes in BC. The other is from operators who want to know how they can get certified. These are both answered on our website, but we are always ready to help anyone with questions."

Dale says, "We are continually increasing our knowledge base. We are always striving to assist operators and employers by adding resources and learning from previous queries."

Dale encourages people to contact BC Crane Safety for correct, detailed information. As she says, "There are no shortcuts but there is a pathway to certification for everyone." She encourages operators to log into their SkillRecord account, enter their hours, and get familiar with how the logbook works. She adds, "This could become a requirement in the future and if you are used to logging in and making entries, you will be one step ahead if or when it is mandatory."

What motivates Dale in her work? With a big smile she says, "Really, I like helping people."

Contact BC Crane Safety anytime at: [info@bccranesafety.ca](mailto:info@bccranesafety.ca) or call 604-336-4699.

## Health and Safety Resources

A foundational part of our mandate is to support safe and effective crane operations in BC. We scour the world for better practices and standards and adapt them for BC. We work with collaborators like crane operators, owners, and employers, Canadian and international regulators, unions, trade associations and educators. This approach ensures that the resources we develop are current, proven and useful. A full list of downloadable resources is available on the BC Crane Safety website at [www.bccranesafety.ca](http://www.bccranesafety.ca) on the "Resources" page. Here are some of the resources and projects we developed this year.

### Slips, Trips and Falls

BC Crane Safety published a new, handy info-flip on preventing slips, trips and falls in 2022. Each year 11,000 British Columbians are injured by slipping, tripping and falling at work (WorkSafeBC, 2021). These incidents can cause serious injuries that can be life changing.

While there are other general resources on this topic, this one unique because it is specifically focused on crane operations in all industry sectors in BC.

### Preventing Workplace Injuries

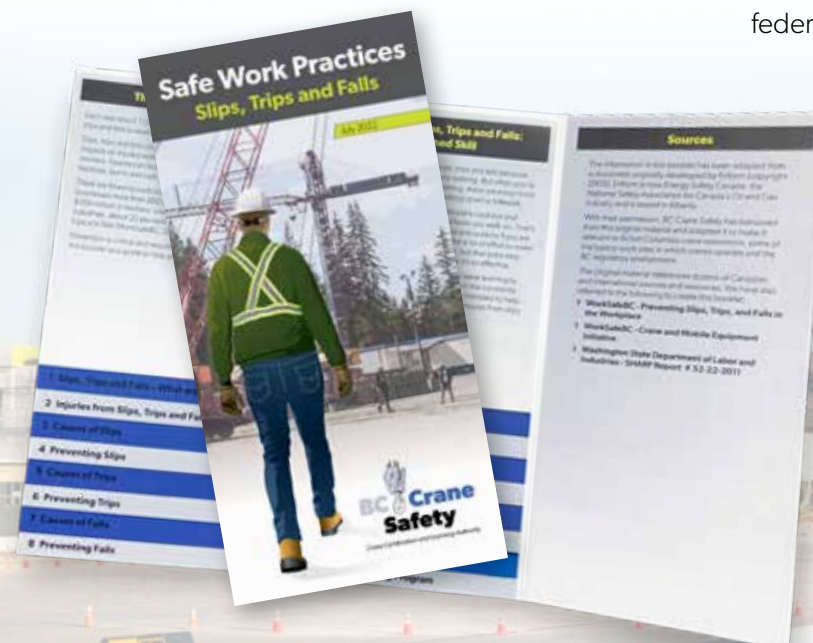
BC Crane Safety produced a handy guide to help prevent Musculoskeletal injuries (MSIs) and promote ergonomic exercise in the form of magnet called "Level Up your shift: Stretching Exercises". It can be attached inside the crane cab to remind operators of the important role stretching can play in preventing injury on the job.



### Safe Work Practice Bulletins

BC Crane Safety creates and publishes new Safe Work Practice Bulletins every year in collaboration with WorkSafeBC and other subject matter experts. This year was no exception. Our goal is to present regulatory requirements and important safety information in useful, easy-to-understand formats. One of our highlights from 2022 was the publication of a bulletin called *Tower Crane Assembly Near An Airport* that involved extensive consultation with federal agencies such as Transport Canada.

Find all our latest bulletins on the BC Crane Safety blog at: [www.bccranesafety.ca/news](http://www.bccranesafety.ca/news)



## Health and Safety Resources

### Checklists

In collaboration with IUOE, BC Construction Safety Alliance, BC Formwork Association, BC Hydro, WorkSafeBC, Technical Safety BC and the City of Vancouver, BC Crane Safety implemented the *Tower/Self-Erect Crane Pre-Assembly/Dismantling Requirements* checklist pilot project in 2022.

Assembling and dismantling tower cranes are complex tasks that need to account for multiple risks. These operations are typically conducted in tight quarters, and often under strict time limits as dictated by local street closure restrictions.

Crane owners, assembly/dismantling service providers and related organizations like BC Crane Safety and the International Union of Operating Engineers (IUOE) are taking an active role in working with the City of Vancouver and WorkSafeBC to propose changes to the assembly/dismantling process to make streets safer for construction crews, motorists, cyclists, pedestrians and the public at large.

How do you use this checklist?  
Share your thoughts, experiences and feedback.  
Please contact us at: [info@bccranesafety.ca](mailto:info@bccranesafety.ca)  
or call 604-336-4699.

## Standards Development

### Tower Crane Community of Practice Working Group

The Tower Crane Community of Practice Working Group was initiated by BC Crane Safety in 2021. It is a group of experts assembled to address issues that emerged following the catastrophic July 2021 incident in Kelowna in advance of an official investigation report.

That investigation is still underway. In the meantime, the Tower Crane Community of Practice Working Group is collaborating on progressive, proactive solutions to matters that affect tower crane assembly, dismantling and inspections in BC. This work includes:

- Certification – establish minimum competency standards for the assembly/disassembly community.
- Assembly/Disassembly Community Registry (BC Crane Safety). This will be integrated with the existing SkillRecord platform.
- Formalized reference-checking procedure (BC Formwork Association).
- Expansion to the NOP (Notice of Project) procedure (WorkSafeBC).  
A regulatory change request is in the pre-consultation phase.

Share your ideas and expertise with the working group. Please contact us at [info@bccranesafety.ca](mailto:info@bccranesafety.ca) or call 604-336-4699.

### Certification Exam Revisions

As the crane certification and licensing authority for British Columbia, BC Crane Safety is constantly engaged in reviewing and updating certification standards to keep pace with regulatory and technological changes. In 2022, we achieved an agreement with SkilledTradesBC to collaborate on a project to revise theoretical and practical exams for tower and mobile crane operators to better reflect the current reality of these professions.

In addition, BC Crane Safety began work to update the standards for provisional operator (trainee and apprentice) credentials. These revisions will bring training materials and curricula up to date and ensure that assessments continue to be relevant, consistent, fair and equitable.

### Plan-for-10

In 2022, we launched a pilot project in support of WorkSafeBC's initiative on the limits of approach to high voltage work including overhead powerlines and crane operations.

BC Crane Safety's contribution supporting Plan-for-10 includes an online competency evaluation system designed to be used via an easy-to-use app. It is part of the rollout of our new SkillRecord Passport

that we plan to pilot in the next year. Plan-for-10 provides verified assurance that operators are both knowledgeable and competent working around electrical hazards. It will enable operators to demonstrate and document their skills, knowledge, and ongoing commitment to safe and professional operations.



## Addressing Industry Issues

### Labour Market Shortages

Over and over, we hear from our stakeholders about the enormous challenges they are facing recruiting and retaining talent. Often companies are forced to decline lucrative contracts because they can't get the skilled workers they need to grow their businesses. Whether they are looking for established professionals or potential trainees, this is an international challenge that is being experienced by almost all industry sectors, particularly those that employ skilled tradespeople.

A report published by the Royal Bank of Canada called "Powering Up: Preparing Canada's Skilled Trades for a Post-Pandemic Economy" predicts that more than 700,000 skilled trades people will retire by 2028 while apprenticeship applications are declining significantly.<sup>1</sup> The report further states that Canada will face a shortage of at least 10,000 workers in nationally recognized Red Seal trades over the next five years — a deficit that swells tenfold when 250 provincially regulated trades are included.

<sup>1</sup> <https://thoughtleadership.rbc.com/powering-up-preparing-canadas-skilled-trades-for-a-post-pandemic-economy/>

Those are enormous numbers, and the industry is already feeling the crunch.

Along with all our efforts to promote the attractiveness of the crane operator profession here in British Columbia, BC Crane Safety has been working with ESTA (the European Association of Abnormal Transport and Mobile Cranes) and ECOL (the European Crane Operators Licence) in the European Union to help facilitate labour mobility between Canada and EU member states for many years.

We have established relationships with several European countries — a list that keeps growing. This allows us to recognize the credentials of operators who obtained their certificates outside BC and vice versa.

### Crane Transport Permitting

Transporting cranes across regions in BC is a complex undertaking that can require permits from multiple municipal authorities. BC Crane Safety is now working with TransLink to simplify the process and reduce the number of permits required.

## Promoting the Crane Operator Profession

Part of BC Crane Safety's mandate is to promote crane operations as an attractive career choice. We work to support new entrants as they join the crane trades by providing a clear path to success and diversity in the workplace.

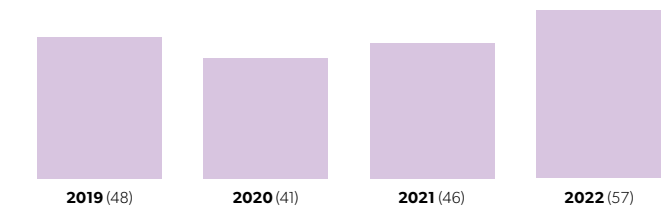
The number of women working in or being trained in the crane trades still makes up a small fraction of the total number of crane operators in BC. We are encouraged, however, by the level of interest we are seeing from women. The number of male active registrations rose 0.9% in 2022 while the number of female active registrations rose 0.8% showing that the number of women considering entering the profession increased at roughly the same rate as men.

### Active registrants by age and gender 2007—2022

	AGE							Totals by district
	19 & under	20–29	30–39	40–49	50–59	60 & over	Unknown	
<b>MALE</b>								
Lower Mainland	29	983	1938	1430	1070	591	726	6767
Island	3	302	689	555	449	373	306	2677
Interior	13	336	828	676	623	529	473	3478
North	9	396	694	491	406	257	509	2762
Yukon	16	67	94	63	30	14	3	287
Other Jurisdictions	12	429	1525	1265	679	451	509	4870
<b>Total Males</b>	<b>82</b>	<b>2513</b>	<b>5768</b>	<b>4480</b>	<b>3257</b>	<b>2215</b>	<b>2526</b>	<b>20841</b>

	AGE							Totals by district
	19 & under	20–29	30–39	40–49	50–59	60 & over	Unknown	
<b>FEMALE</b>								
Lower Mainland	1	44	58	19	10	3	3	138
Island	2	16	21	9	2	4	2	56
Interior	3	13	16	12	7	1	6	58
North	0	16	22	9	7	0	0	54
Yukon	3	11	9	4	4	0	0	31
Other Jurisdictions	0	9	26	13	5	1	0	54
<b>Total Females</b>	<b>9</b>	<b>109</b>	<b>152</b>	<b>66</b>	<b>35</b>	<b>9</b>	<b>11</b>	<b>391</b>

### New Female Registrations 2019—2022



### Promoting a Diverse Workforce

BC Crane Safety is participating in the federal Gender-Based Analysis Plan (GBA+). This program was created by Status of Women Canada to analyze how government policy shapes the experiences of women, men and non-binary people and their access to initiatives that might promote their participation in types of work from which they may feel excluded.

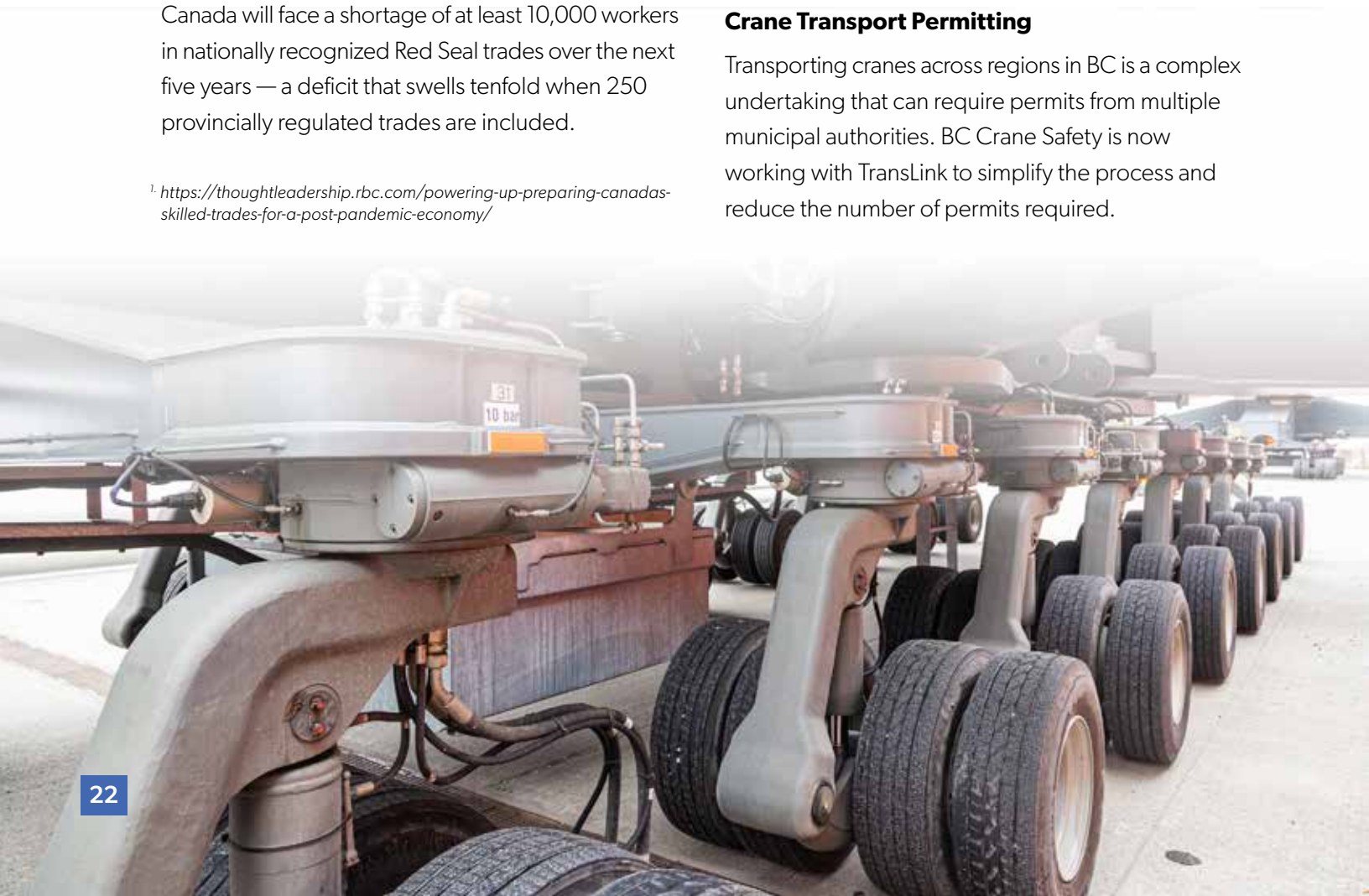
This will generate the information we need to continue to develop strategies to increase the attractiveness of crane operations to encourage more workforce diversity.



In addition, BC Crane Safety is proud to participate in the Prosperity Project's Rosie Advisory Group. The Prosperity Project was created three years ago to help stop COVID-19 from setting back Canadian women in their roles in workplaces, especially women with intersecting, diverse identities.

The Rosie Initiative is inspired by the iconic Rosie the Riveter image from World War II. It is based on the vision to increase:

- The labour force participation rate of women.
- The number of women STEM (science, technology, engineering and mathematics) graduates and workers.



## Promoting the Crane Operator Profession

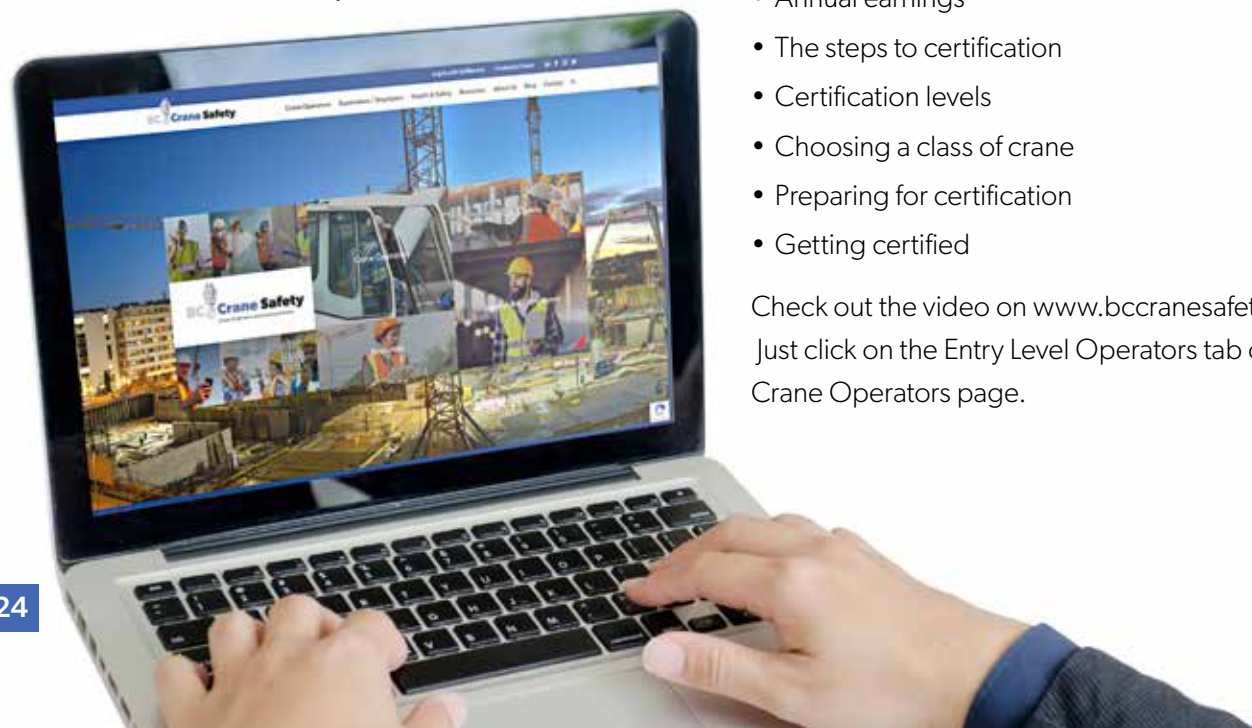
- The number of women skilled trades graduates and workers.
- The number of women in leadership and decision-making roles (and in the pipeline to these roles).

BC Crane Safety helped launch the Rosie Peer Mentoring Groups in 2022. These programs support women entering, upskilling or pivoting to careers in STEM, skilled trades and leadership with the help of established mentors in the field. BC Crane Safety is currently exploring how to best apply the Rosie Initiative in ways that are meaningful, practical and applicable to BC's crane industry.

### Refreshed BC Crane Safety Website

Over this past year, we consulted with stakeholders to find out what was working and what could be improved so that people could get easy access to the information they need through our website. We redesigned it, updated it, and continue to add new content.

Please let us know what you think! Visit the new and improved BC Crane Safety website at: [www.bccranesafety.ca](http://www.bccranesafety.ca) and send us your feedback at: [info@bccranesafety.ca](mailto:info@bccranesafety.ca).



### Increased Stakeholder Communications

Throughout 2022, we have increased our outreach to stakeholders with important news that affects crane operations. From regulatory changes, consultations, new resources, conferences, contests and opportunities to participate in all things crane-related, we have you covered!

Please follow us on LinkedIn (BC Crane Safety) and subscribe to our newsletter by clicking the Subscribe button at the bottom of the screen on our home page — [www.bccranesafety.ca](http://www.bccranesafety.ca).

### Crane Safety/Yukon Workers' Safety and Compensation Board Orientation Video

In 2022, our long-time partners, Yukon Workers' Safety and Compensation Board asked us to produce a short video to introduce our joint crane operator certification program to new registrants. The goal is to support efforts to orient new trainees, apprentices, and people considering a career in crane operations to the certification process in BC and the Yukon.

The video outlines topics such as:

- Annual earnings
- The steps to certification
- Certification levels
- Choosing a class of crane
- Preparing for certification
- Getting certified

Check out the video on [www.bccranesafety.ca](http://www.bccranesafety.ca). Just click on the Entry Level Operators tab on our Crane Operators page.

## Events

BC Crane Safety was proud to participate in several events this past year.

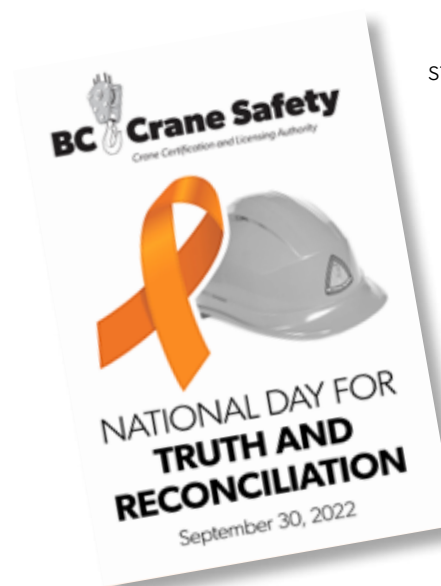


Day of Mourning at Jack Poole Plaza, Vancouver, BC, April 28, 2022.  
Roberta Sheng-Taylor photos.



The annual Workers' Day of Mourning was first held more than 40 years ago and has continued to be honoured every April 28. Members of the Canadian Union of Public Employees (CUPE) created this day to remember workers who lost their lives on the job and inspire others to advocate to prevent further tragedies.

BC Crane Safety also attended a memorial marking one year since the tragic tower crane incident in Kelowna on July 12. BC Crane Safety also encouraged stakeholders to recognize and participate in the 2022 National Day for Truth and Reconciliation in September.



Kelowna, BC One-Year Memorial honouring the victims of the tragic tower crane incident that occurred on July 12, 2021.  
Clinton Connell photo.



**Crane & Hoist Canada Features BC Crane Safety**

BC Crane Safety was featured in the September/October issue of Crane & Hoist Canada highlighting

our take on compulsory trades as a strategy to help relieve the shortage of skilled trades workers in BC.



**A Certifiable Solution**

How compulsory certification can help relieve skills shortages: The BC Crane Safety Example  
By Andrew Klukas, Pathward Initiatives Inc.

**B**ritish Columbia's crane operator certification program addresses in a unique way some of the traditional arguments against compulsory certification.

If a trade is compulsory all work performed must be done by a credentialed journey person or indentured apprentice. Historically, this has meant that employers and workers are limited to a single established credentialing process and must keep job roles strictly defined. Credentials have traditionally been tied to hours of experience on the job.

BC Crane Safety's crane operator certification program is compulsory because WorkSafeBC regulations require that all operators have a credential to be certified.

Many employers argue against compulsory trades on the grounds that the heavy up-front commitment of time and money reduces the number of entrants to the trades. Meanwhile, some journey persons end up performing tasks for which they are overqualified. This is inefficient. The result is fewer people working in the trades and those that do are less productive than they could be.

Is it possible to have compulsory credentials, increased participation, and improved productivity? We think so. A paper

recently prepared for BC Crane Safety argues that, under the right circumstances, it can.

Says Clinton Connell, BC Crane Safety's Executive Director, "The key to success is to have a certification model that focuses on evaluating people's competencies instead of relying too heavily on time in trade, or 'seat time.'

Traditional certification programs that rely heavily on time in trade as an indicator of ability can be problematic in both slow and hot economies.

In a slow economy, a new operator may not get as many opportunities to learn and gain experience on the job. Since time in trade is not clearly defined in Canada it is often calculated in terms of payroll hours and can therefore include other unrelated activities. In this scenario, a candidate can earn their time but still lack some essential competencies. Competency-based models are more responsive to economic conditions and don't allow this outcome.

In a hot economy there may be ample opportunities to gain needed experience, but formal training requirements can cause delays in obtaining full certification.

A competency-based model avoids this outcome as well. Let's look at this more closely.

**Measuring competency**

Competency can be described as the ability to meet essential standards of performance for an occupation. When competency is measured against established standards, it can be directly recognized and rewarded. How or where people acquire those competencies - whether it was from formal training, informal learning or experience in related jobs - is less important than the fact that they have them.

Says Connell, "No recruiter needs to confirm whether professional hockey players know how to tie their skates. The ability to put a puck in the net during the game incorporates the relevant competencies without having to test for every detail that contributes to a successful performance."

This is the kind of assessment process BC Crane Safety and its stakeholders chose for crane operator certification. Candidates have to demonstrate their competence by successfully completing practical assessments that are administered by independent, professional assessors in real world settings.

Equally important, employers have the responsibility under the Occupational Health and Safety Regulation to ensure their candidates are ready to work independently before they challenge the practical assessment. After a period of on-the-job training operators can challenge the assessments when they and their employers believe they are ready.

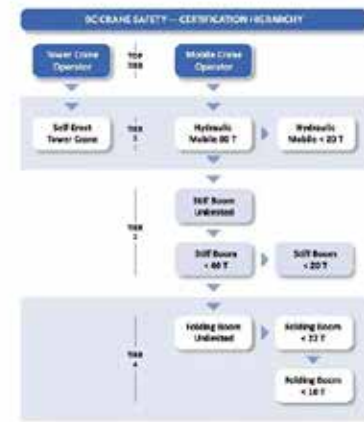
Says Connell, "The program has safely expedited the certification process while widening the talent pool and also supporting diversity and inclusion."

**Sensitivity to market conditions**

Since operators in training must work under the supervision of an employer, their initial choice of crane is guided by prevailing market conditions as they can only train on cranes that are in commercial use at that time and place. Yet depending on industrial needs in a given region, operators may eventually gain access to their cranes of choice and begin preparing to earn a higher level of certification by challenging the practical assessment on these cranes.

**Flexibility**

BC Crane Safety's certification model is tiered and allows people to enter at various levels. Those who choose to certify



How the certification hierarchy works. Image courtesy of Pathward Initiatives Inc.

at the top tier of the mobile crane class will also be certified to operate any mobile crane or boom truck. Those who choose to certify to operate a boom truck with unlimited capacity will also qualify to operate lower capacity cranes in that class.

Operators are not required to demonstrate competencies they don't need and can look forward to becoming certified on their crane of choice in a relatively short period of time. The amount of time it takes depends on their individual abilities and the type of crane they are going to operate.

"Most new operators start their careers on cranes in the lower tiers," says Connell, "but one of the advantages of the tiered system is that operators can gain experience on the job and eventually certify on more specialized cranes by challenging the assessment."

**Conclusion**

The identification and application

Contact: Pathward@protonmail.com

**Construction Connect Highlights BC's Safety Record for Crane Operations**

In February 2022, the Journal of Commerce by Construction Connect profiled BC's unique crane

operator certification program, its history and its impacts on health and safety across industries.

ASSOCIATIONS, LABOUR, OH&S

**B.C. crane operator program sees success elevating site safety**

Grant Cameron February 2, 2022



**A** unique crane operator certification program that was started in British Columbia in 2008 has had a significant positive impact on safety, says Clinton Connell, executive director of the BC Association for Crane Safety, an advisory body that addresses standards and regulations in the industry.

According to WorkSafeBC data, the number of injury claims involving crane operators dropped by more than 40 per cent after the certification program was implemented despite an increase in hours worked by crane operators.

Various sectors in which cranes are used also saw reductions in overall injury claims, but the reductions among crane operators surpassed the decreases in those areas.

The same finding did not appear when the organization looked at time-loss claims for those that do not require certification, such as gantry and overhead cranes.

"The main thing is that employers and the public can have assurance that those who are certified under BC Crane Safety's competency-based model have, at a minimum, the essential competencies needed to safely operate the equipment for which they are certified," explained Connell.

The foundation for the present program started in 2004 when WorkSafeBC invited industry and labour representatives to discuss the need for a crane operator certification program.

The government had eliminated all compulsory trades, however occupational health and safety regulations still required crane operators to be properly qualified and there was no organization to oversee that.

Furthermore, said Connell, training was inconsistent at the time, which led to widely varying levels of skill among crane operators, and some had little or no experience with rigging or equipment setup.

"As seasoned operators were nearing retirement age, increasingly serious incidents involving cranes began to pose a growing risk to both injury and property."

Crane owners, operators, employers and Local 115 of the International Union of Operating Engineers all worked together. More than 40 owners and senior managers of companies that provide crane operations held a series of workshops over the course of a year and reached consensus that a qualification system was necessary.

The workshops were organized into three groups: boom truck, mobile crane and tower crane.

All three reached the same fundamental conclusions about the nature of the crane operator qualification system.

"It became clear that stakeholders overwhelmingly sought a credentialing model that would follow the actual ways in which crane operators gain their competencies," Connell noted. "What ultimately emerged from the consultations was the goal of developing a certification program whereby operators earn the right to practice only after clearly demonstrating their competence by way of a practical assessment similar in principle to a motor vehicle road test."

Prior to the current program being developed, there were no mandatory certification requirements for crane operators in B.C. Although the law requires drivers of motor vehicles to pass a road test, anyone was allowed to operate a crane without first earning a recognized credential.

To achieve a certificate of competency today, operators must complete a real-life test at their worksite administered by an independent, third-party professional assessor.

Operators are assessed on hand signals, understanding of load charts and rigging, pre-operational inspection, crane setup and hazard assessment and crane operation. Candidates take between one-and-a-half to two hours to complete the assessment. Each element is scored independently, and candidates must pass every one to be certified.

The government does not subsidize the assessment process and it is fully paid for by the industry via a fee for service

"Operators are typically tested at their jobsite and on the equipment they use daily," said Connell. "The tiered structure of the program makes it possible for candidates who plan only to operate a boom truck with limited lifting capacity to certify on the applicable class of crane."

Operators are not required to demonstrate competencies they don't need during the assessments.

"They can therefore complete their training and look forward to becoming certified in a reasonable amount of time," Connell said. "If they later choose to certify on a more sophisticated, higher-tier class of crane they can acquire the skills they need and take the practical test on that class of crane."

The amount of time spent in a class varies by training provider and the amount of time gaining experience in the seat is not fixed but varies depending on the abilities of operators in training and the sophistication of the crane they are going to operate.

There are minimum seat-time hours required when applying for different classifications.

Traditionally, assessments of qualifications for a certification focus on education, knowledge and skills gained through training and work experience as a measure of a crane operator's ability.

But when time is the sole measure of an operator's ability, the level of competence achieved by trainees will vary and there is no guarantee that they have mastered the necessary skills, said Connell. In the new program, competence is measured through a practical assessment and the amount of time required to become competent may vary according to the talents and aptitudes of candidates.

In 2020, 1,068 operators became certified. More than 26,000 operators have been certified since the program began.

## Certification

As we look forward to 2023, we are committed to continuing to provide innovative solutions and practical health and safety resources for the stakeholders we serve. We are dedicated to:

- Building a more transparent credentialing process to support career planning and an ongoing skills measurement and evaluation system using an updated SkillRecord Passport.
- Providing recommendations for regulatory compliance, the maintenance of occupational competency standards, next practices in health and safety, and checklists and tools for safe crane operations.
- Enhancing communications about important issues that affect our stakeholders.
- Offering growing options for operators who want to work abroad.
- Developing programs and resources that will make it easier for operators to maintain and update their credentials when there are changes in technologies, regulations and work processes.

Here are some examples of initiatives we have underway.



### SkillRecord Passport

BC Crane Safety conducted a first pilot of the new SkillRecord Passport application in 2022. Next year we will work to integrate user feedback and conduct more trials through initiatives like the Plan-for-10 program rollout. Plan-for-10 is a project to increase awareness of safe work procedures when working around high voltage power lines and equipment. It is a collaboration between BC Crane Safety, WorkSafeBC, BC Hydro and other subject matter experts.



The SkillRecord Passport app will provide a checklist of critical skills to be demonstrated by crane operators, crane operator trainees and apprentices. Supervisors, employers, and designated, qualified assessors will sign off on the operator's competencies. Eventually, the app will also allow certified crane operators to demonstrate their continued professional work over the course of their careers.

Some key features of the SkillRecord Passport app include:

- It provides documented, verified evidence of crane operators' health and safety knowledge and competencies.
- It stores employer and supervisor records of ongoing worker training and evaluation.

Stay tuned! We look forward making the app available to all operators and employers and expanding the scope of SkillRecord Passport to include more critical competencies.

## Health and Safety Resources

### Toolbox Talks Development

In Spring 2022, BC Crane Safety identified more than 50 topics to be covered as crane-specific toolbox safety talks for workers, contractors, supervisors and employers.

To date, 52 toolbox talks have been drafted and are being reviewed and finalized. Each one features a one-page sample meeting script with references to the BC Occupational Health and Safety Regulation (OHSR), the Workers' Compensation Act and other relevant information.

The finished documents will be published on the BC Crane Safety website as free resources. Our aim is to make BC Crane Safety the industry go-to association for health and safety resources and support materials for lifting and hoisting operations.

Please let us know what topics would be useful for you. Contact us at [info@bccranesafety.ca](mailto:info@bccranesafety.ca) or call 604-336-4699. We are grateful for your suggestions.

### Safe Work Practice Bulletins

BC Crane Safety creates and publishes new Safe Work Practice Bulletins periodically in collaboration with WorkSafeBC and other subject matter experts. Our goal is to raise awareness of regulatory requirements and share recommendations for compliance and present important safety information in useful, easy-to-understand formats.

For example, we are currently working on Safe Work Practice Bulletins with guidance on daily inspection requirements for all crane types and safety hazards associated with holiday light displays on tower cranes. Stay tuned for many more in 2023!

## Standards Development

### ISO/IEC 17024 Accreditation

BC Crane Safety continues to work toward becoming an accredited certification body under ISO/IEC 17024 through the Standards Council of Canada. What does that mean? The ISO is the International Standards Organization which sets global standards for many industries and activities, including certification. Accreditation is a complex process during which all aspects of the certifying body's operations are scrutinized through a comprehensive audit and measured against the best and most reliable certification programs in the world.

For BC Crane Safety, and for the crane owners, employers, operators and other stakeholders we serve. It enhances all the work we do to make sure our certification program moves into the future by expanding the world-class distinction it has today.

### Rigging Standards

BC Crane Safety has consulted with stakeholders across Canada over many years to develop national standards for professional riggers and signalpersons. A draft standard was approved for use in BC by the Crane Rental Association of Canada (CRAC) and vetted in Richmond, BC at the Tower Crane Conference in 2019.

Now we are engaging in further consultation with Ontario to harmonize our standards with a view to a future national certification program. We are also exploring the possibility of achieving a shared standard with the European Crane Operator License Foundation (ECOL). We have had discussions at the federal level regarding the creation of a specific National Occupational Classification (NOC) for Rigging.

A national certification program would make that possible across the board and a NOC code for Rigging would clarify responsibilities for safety below the hook.



## PART 4 – OUR COLLABORATORS

### Partnerships in the Yukon



## Workers' Safety and Compensation Board Yukon

The Yukon continues to offer many opportunities to start a highly rewarding career as a crane operator. Workplaces in the territory continue to thrive, including mining, residential and commercial construction, road-building and other major infrastructure projects. The demand for trained certified crane operators continues. The Yukon's Workers' Safety and Compensation Board (WSCB) is focused on setting new operators up for success and collaborates with BC Crane Safety to produce more training supports. The WSCB and Yukon crane-using industries have a longstanding co-operation with BC Crane Safety. Yukon crane operators are certified under the same system as BC crane operators. This automatically provides Yukon crane operators the same national and international mobility as BC crane operators. The Yukon-BC relationship has been going strong since the beginning. The WSCB has played an indispensable role in the development of certification standards, the certification model itself and holds a non-voting position on the BC Crane Safety Board of Directors. Both jurisdictions instituted changes to their respective workplace Health and Safety Regulations in tandem, with parallel requirements for demonstrating competency and certification. This is the basis for the

legal requirement for crane operator certification and the foundation for mutual agreement on the use of the same standards and assessment system in both BC and the Yukon. As the certification scheme was developed and piloted, the WSCB participated every step of the way. In fact, the first competency assessments delivered under the certification program were conducted in the Yukon Territory in 2008. Because of their co-operative agreement, crane operators and employers in both BC and the Yukon have access to a streamlined career path and the support to get the information, resources and training they need. BC Crane Safety has an administrative and oversight role, maintaining certification standards and supports such as the registration system and online logbooks. Theoretical and practical training is provided through the Yukon University and competency assessments are delivered by BC-based Fulford Certification. The shared goal of the WSCB and BC Crane Safety is, and will continue to be, to promote safe crane operations, operator mobility and industry efficiency.

Since BC Crane Safety was officially established in 2005, we have had the privilege of consulting with hundreds of generous individuals who have volunteered their time and expertise to the development of BC's crane operator certification system. They have been crane operators, owners, contractors, labour representatives, industry associations, suppliers, manufacturers and employers along with a host of other experts.

Without their contributions, we would not be where we are today. We sincerely thank everyone who has given their valuable time and knowledge to develop our world-class certification scheme.

In addition, we would like to extend our special thanks for the contributions of some of our key collaborators including:

- WorkSafeBC
- Yukon Workers' Safety and Compensation Board
- Fulford Certification
- SkilledTradesBC (formerly the Industry Training Authority)

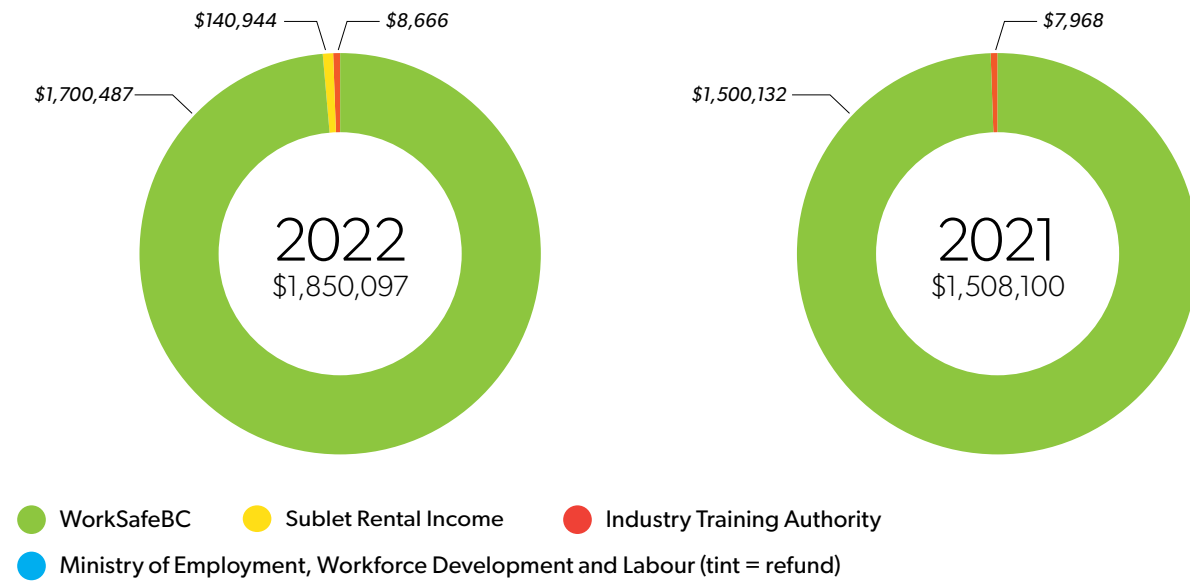
- Employment and Social Development Canada
- International Union of Operating Engineers (IUOE)
- Engineers and Geoscientists BC (EGBC)
- Technical Safety BC
- BC Ministry of Jobs, Economic Development and Innovation
- City of Vancouver
- Metro Vancouver
- Standards Council of Canada (SCC)
- Canadian Standards Association (CSA)
- Crane Rental Association of Canada (CRAC)
- Canadian Hoisting and Rigging Safety Council (CHRSC)
- US Occupational Health and Safety Administration (OSHA)
- European Crane Operators Licence (ECOL)
- European Association for Abnormal Transport and Mobile Cranes (ESTA)



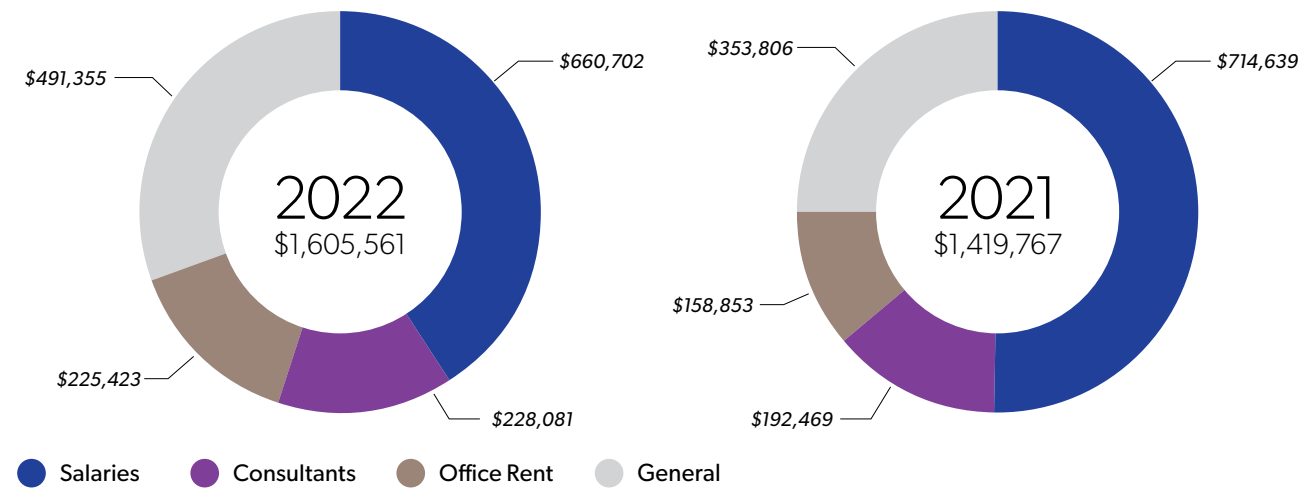
# PART 5 – FINANCIAL STATEMENTS

## BC Association for Crane Safety, 2022 Fiscal Year in Review

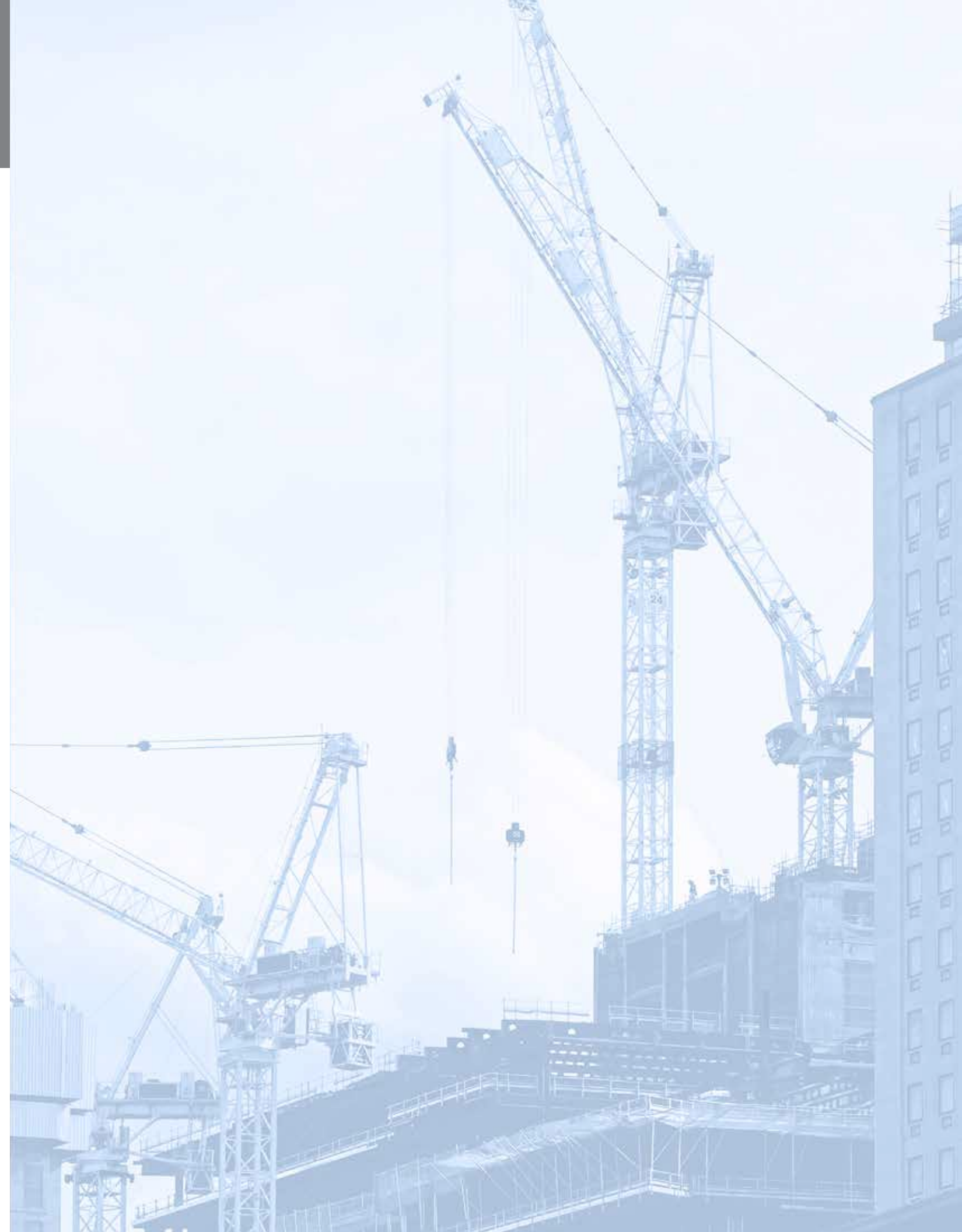
### Funding — Operations



### Expenditures — Operations



Audited financial statements can be viewed at: [www.bccranesafety.ca/about/year-end-reports](http://www.bccranesafety.ca/about/year-end-reports)





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