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B.C. Construction Industry Launches Certification Program for Concrete Pump Operators

A major step has been taken to improve safety on construction sites throughout British Columbia.

Vancouver, B.C., September 12, 2019 - The BC Construction Safety Alliance (BCCSA), in partnership with industry and labour organizations across the province, has launched North America's first certification program for concrete pump operators.

Concrete is the most popular construction material in use today. As buildings become taller, it is often necessary to pump ready-mixed concrete at very high pressure, through a complex system of pipes to reach the right spot on the construction site. The operators that control this often-dangerous pumping process now have a safety skills standard against which to be measured.

"This is one of the most important parts of building construction, and one of the most dangerous," said Mike McKenna, Executive Director of the BC Construction Safety Alliance (BCCSA).

"While people operating such heavy equipment must be trained to do this work, surprisingly no formal programs are in place anywhere in North America to validly certify their knowledge or on-site performance capabilities," he said. "This is where British Columbia has taken the lead to improve safety on construction sites where concrete pumps are in use."

Working with the Council of Construction Associations (COCA), Independent Contractors and Businesses Association (ICBA), BC Construction Association (BCCA), Concrete BC, Canadian Home Builders Association BC (CHBABC), the BC Roadbuilders Association, the BC Stone, Sand and Gravel Association and the International Union of Operating Engineers Local 115 the Construction Safety Alliance agreed to fund research on ways to measure pump operator competence and to pilot test operator examinations.

Province-wide consultations were held in 2015 and were followed in 2016 by pilot testing of pump operators by industry experts. In order to gain industry-wide acceptance, the program was created to meet International Standards Organization (ISO 17024) requirements and be accredited by American National Standards Institute (ANSI).

The development of the program was co-managed by Concrete BC and BCCSA. "Working with industry and other experts, a psychometric audit of the examination questions was undertaken in order to meet ANSI requirements and to establish an acceptable score needed to pass the examination," said Rob Slarks, ConcreteBC Chair and Customer Service Manager, Materials Vancouver, Lehigh Hanson.

British Columbia's construction sector has shown great leadership by acting on this important safety issue and we look forward to working with BCCSA and other industry associations to extend this certification program in other jurisdictions," he added.

His comments were echoed by Josh Towsley, Business Manager for the International Union of Operating Engineers (IUOE) Local 115. "We played a leading role in the pilot testing of this program and we commend the BCCSA in its leadership in bringing business and labour together in the interests of construction industry safety," he said.

"Concrete pump safety is not simply a concern of concrete pump owners and operators but to everyone working on a construction work site, particularly during placing activities with those working on the formwork, placing or passing near a pump" said Richard Verbeek of PCL and current Chair of the BCCSA Board.

The importance of safety on or near construction sites has been recognized by WorkSafeBC (WSBC), the provincial agency promoting safe and healthy workplaces across the province. "This is an important day for workers and employers in the concrete pumping industry and for BCCSA", said Dale Walker, Vice President at WorkSafeBC., "We are supportive of this voluntary program as it will help to address the hazards in this work and will raise the bar on training and qualifications." he added.

While accidents involving concrete pump activity on construction sites are rare, they can be devastating in their impact, leading to worker injury or death, and bringing to a halt construction activity at a building site until investigations are completed.
Please see Backgrounder for further information

Quotes

"This competency certification program for concrete pump operators is a North American first. I want to complement our Board of Directors not only for their leadership to develop such a program where none previously existed, but also for their foresight to build it to meet international standards so that it can be accepted anywhere on North America." Mike McKenna, Executive Director of the BC Construction Safety Alliance (BCCSA).

"The BCCSA Board of Directors is immensely proud of the achievements of the BCCSA Staff and our industry partners in launching this important safety program for the construction industry. This highlights sound leadership and the collaborative efforts of many. Through the prudent allocation of resources and energy the program will make for positive change and safer work environments" Richard Verbeek, Chairman of BCCSA Board of Directors and Regional HSE Manager at PCL Constructors.

"We want to compliment the BCCSA in their leadership to bring together this collaborative effort of both business and labour working together in the interests of construction industry safety in our province." Josh Towsley, Business Manager for the International Union of Operating Engineers (IUOE) Local 115

“This is an important day for workers and employers in the concrete pumping industry and for BCCSA. The construction industry and labour unions took on this challenge and developed an innovative voluntary competency certification regime that meets the highest International Standards. WorkSafeBC is proud to support all efforts to make construction workplaces safer.” Dale Walker, Vice President at WorkSafeBC

“On behalf of the Concrete BC Board we want to thank the BCCSA Board for their leadership and commitment to fund the development of this vital program. We look forward to working with BCCSA and other members in the Canadian Federation of Construction Safety Associations (CFCSA) to extend this certification program to other jurisdictions.” Rob Slarks, ConcreteBC Chair and Customer Service Manager, Materials Vancouver, Lehigh Hanson.

“The Council of Construction Associations (COCA) has been supportive of this initiative since day one and continues to do so today. Our members will work collectively and individually to promote concrete pump certification and encourage our members to insist on hiring certified concrete pump operators.” Dave Baspaly, President, Council of Construction Associations.

CCPO: Backgrounder

- Early 2014, the Concrete BC Board agreed to a request from their Concrete Pump Committee, that efforts should be undertaken with WorkSafeBC, to have operator qualifications become mandatory, like crane operators. The situation was unacceptable:
 - anyone with a Class 3 driver’s license could lease any size of pump and begin pumping concrete
 - after over 12 years of offering voluntary safety training and safety training materials, fewer than an estimated 25% of pump operators in BC had taken a written examination of safety knowledge
- Fall 2014, consensus reached among major BC construction industry associations that the lack of operator qualifications for concrete pump operators was a major concern for the construction industry. Consensus included the Council of Construction Associations (COCA), Independent Contractors and Businesses Association (ICBA), Concrete BC, Canadian Home Builders’ Association BC (CHBA BC) and the BC Roadbuilders and Heavy Construction Association (BCRBHC). The collective ask was for WorkSafeBC to make certification of pump operators mandatory, like crane operators.
- 2014, WorkSafeBC recommended more efforts should be undertaken by industry to develop a voluntary operator competence certification.
- 2015, the BC Construction Safety Alliance (BCCSA) agreed to the first phase of research and development, to establish practical pump operator competence exams and to pilot test the examinations.
 - Concrete BC partnered to provide subject matter expertise and joint project management with BCCSA.
 - Fulford Certification was retained to advise on examination development for a voluntary certification program. Fulford Certification was the organization qualified by WorkSafeBC to manage the assessment and certification of crane operators.

- A subject matter expert (SME) committee was formed with representatives from the concrete pumping industry, the concrete industry, unions (IUOE Local 115), and the US Chair of the American Society of Mechanical Engineers, Standards Committee for Concrete Pumps (ASME- B30). The project developed comprehensive skills standards for concrete pump operators. With the advice of industry SMEs, practical exams were developed for 5 categories of concrete pumps: low-pressure line pumps (up to 1233 psi), high-pressure line pumps, boom pumps up to 41 meters and below, boom pumps over 41 meters and tower placing booms.
- 2016, province-wide industry consultations were undertaken on project objectives, skills standards and designation of categories for examinations. An overwhelming consensus emerged that the “status quo” was not an option and that mandatory certification was the best option.
- 2016, the Canadian Ready-Mix Association (CRMCA/ACBPE) agrees to become a marketing partner to promote the CCPO certification program.
- 2016, 36 pilot tests of practical examinations competence were conducted and reviewed by subject matter experts.
- 2017, BCCSA Board decides to develop CCPO program to an ISO 17024 standard for the certification of competency of persons. and seek accreditation by ANSI, ensuring the certification to be valid anywhere in North America.
- ANSI accreditation requires meeting both a management audit of meeting ISO requirements and a psychometric audit of all examinations.
- ISO has very detailed program operation requirements including policies and procedure dealing with all program operations.
- October 2017, the Canadian standard for Concrete Pumps (CSA Z151-17) is published and includes, after 2-years of deliberation, the requirement for pump operator to pass both a written examination and a demonstration of competency examination.
- 2018, a psychometric audit was undertaken of all examinations completed to date. The audit found the 5 practical examinations met ANSI accreditation requirements, but the written examination, and 4 other written examinations used by industry throughout North America, were found to be invalid for accreditation purposes.
- 2019, Fulford Certification developed a question bank for a written knowledge examination, based upon the Skills Standards and the report of the Job Task Analysis study.
- Guided by a PhD psychometrician, SMEs reviewed the question bank. Gaps were identified and new questions written. Using the recognized Angoff Methodologies, the SMEs established the scoring on each question and the cut-score to pass the examination.
- Yardstick Assessment Strategies (YAS) was contracted to load the question bank into their software and deliver the written examinations in both virtually and test centre proctored environments across BC.
- WorkSafeBC assisted in providing funds to operationalize the program developed.
- The CCPO Program Candidate Handbook and related marketing materials were prepared. The program information and application process were integrated into the BCCSA website. With WorkSafeBC program funding, BCCSA staff were assigned to coordinate the program, and IT infrastructure was built to automate the certification processes.
- September 2019, the CCPO program will be officially launched