Session Descriptions

2024 Conference & Tradeshow

May 26 to 29

River Rock Casino Resort

Richmond, B.C.

Wood Use in BC – Navigating the Code and Alternative Solutions

Derek Ratzlaff and Joe Krevs, Canadian Wood Council

Session Description

An Explanation of Encapsulated Mass Timber Construction (EMTC) and the evolution of building types in response to code changes over the last 20 years, followed by a description of the upcoming code changes in the BCBC and strategies in wood construction.

Derek Ratzlaff, Struct.Eng, P.Eng, PE – Derek began his career in the wood industry in high school working on single and multi-family light wood construction. He then received a degree in civil engineering and worked in structural consulting for close to 20 years. Derek has worked in all types of wood construction and played key roles in the delivery of iconic BC wood structures, the Richmond Olympic Oval and Grandview Heights Aquatic Centre. He brings his experience in design and construction to support the industry as the Woodworks BC Technical Director.

Joe Krevs, P.L. Eng, BCQ – Joe is an experienced Engineer (Professional Licensee Engineering with EGBC) and former Building Official (Building Code Qualified with BOABC). Joe is a Principal at Ratio Code Consultants Ltd. He has over 16 years' experience as a Code Consultant in the private sector and Building Official with two metro Vancouver municipalities. Joe specializes in Part 3 of the BC Building Code, Vancouver Building Bylaw as well as the upgrade triggers of the Vancouver Building Bylaw. Joe has reviewed and prepared numerous code reports and alternative solutions for assembly, residential, institutional and industrial occupancies. Joe currently sits on the Building Code Interpretation Committee and successfully completed the Certified Professional program in May of 2022.

Session Descriptions

Decrypting the Data

Mark Bernhardt, Bernhardt Contracting

Session Description

Using big data and big dreams of low carbon this session will dig into large energy model data sets. We will pick through big data to find common errors, trends and interesting stories. All of these have an impact on how we enforce the Energy and Zero Carbon step codes. This session will aim to inform and improve the "snif" test that building officials have for applications that come across their desk.

Mark Bernhardt, B.Sc. CPHC, REA – Mark is the President of Bernhardt Contracting Ltd. and CEO of Energy Code Solutions. For the last decade he and his team have spent their time developing, building, retrofitting, and consulting on some of Canada's highest performance homes.

Mark is a Registered Energy Advisor and Passive House Consultant, and over the past few years has spent much of his time helping other builders gear up for Step Code and higher performance buildings. He serves on several provincial code committees and is CHBA BC Vice President and past chair of the technical committee.

Overview of Proper Acceptance Testing / Commissioning of Sprinkler Systems

Matt Osburn, CASA

Session Description

This presentation will review how to properly conduct the Acceptance Testing / Commissioning of Fire Sprinkler Systems, Standpipe Systems and Fire Pumps. Fire sprinklers, standpipes and fire pumps are installed in stages, and in some jurisdictions across Canada inspections are required during the construction of the building. The NFPA standards provide guidance and details on what tests need to be required and documented to ensure the installation has been installed according to the appropriate NFPA standards. This seminar will review the proper Acceptance Tests and Commissioning requirements that must take place before the systems are approved and placed into proper operation. It will also point out and show examples of proper testing procedures and test reports.

Session Descriptions

Matt Osburn is Vice President of Codes & Standards at the Canadian Automatic Sprinkler Association. Matt attended Seneca College in Toronto, where he studied in the Fire Protection Technologist program. Matt has over 24 years of experience in the Fire Sprinkler Industry, and his background has primarily dealt with Codes and Standards in the Fire Sprinkler Industry. Matt is a past member on the Canadian Commission on Building & Fire Codes Standing Committee for Fire Protection (Part 3) and serves on multiple fire sprinkler related NFPA Technical Committee's as a Principal Member and Alternate Member role.

Minor Code Changes, What Do They Mean?

Kevin Wong, UPONOR

Session Description

In the NPC 2020, there have been a number of administrative changes, minor changes and alignment with current referenced standards.

Kevin Wong, MBA, BSc, CAE, is the Canadian Codes Manager with Uponor. Prior to joining Uponor, Kevin spent a 12-year tenure as the Technical Manager for CIPH and the Executive Director of CWQA. He has worked with MIFAB, Cimatec, and Jacques Whitford Environmental Engineers & Consultants. He is actively involved over the last 25 years in various U.S., Canadian, and international standards/codes committees including NSF, CSA, WQA, and National Master Spec of Canada. Kevin served as a member of the Standing Committee on Plumbing & HVAC at Codes Canada. Kevin is an environmental sciences graduate from York University and holds an MBA from the Schulich School of Business, with various certificates from University of Toronto and the Canadian Society of Association Executives.

Advancing Mass Timber Construction – Innovations in Code Development

Aman Gill, Ministry of Housing and Cameron McDonald, Ministry of Jobs, Economic Development and Innovation

Session Description

Presentation will detail the pilot code development process recently undertaken by Provincial partners for advancing EMTC building code provisions, as well as a summary of the code content.

Session Descriptions

Aman Gill – Aman is the acting Director of Policy and Legislation in the Building and Safety Standards Branch, Ministry of Housing where his responsibilities include energy efficiency and greenhouse gas reduction policies for buildings. He has a background in urban studies and previously worked in local government as a senior planner.

Cameron McDonald – Cam is a former level 3 building official and currently an associate member of the BOABC. He now works in the Office of Mass Timber Implementation, under the Ministry of Jobs, Economic Development and Innovation, as the Lead of Technical Solutions and played an active role in the development of the new code provisions for EMTC in BC.

CSA F280 HVAC Requirements for Part 9 Buildings

Todd Backus, TECA

Session Description

Todd Backus will discuss the requirements for heating and cooling load calculations required by the BCBC under article 9.33.5.1.

Sizing heating equipment according to CSA F280 standards ensures that the correct capacity mechanical systems are reliably installed. An accurate heat loss & heat gain calculation is the foundation of an HVAC system, and it prevents over or under sizing furnaces and heat pumps.

Todd Backus has worked in the HVAC industry since 2003. He completed his red-seal ticket as a sheet metal worker in 2009. As the owner/operator of Backus Mechanical, he specialized in forced air system installation & design for custom homes.

In 2019, Todd graduated from BCIT with a degree in mechanical engineering. Afterwards, he worked as a mechanical consultant for Rocky Point Engineering designing HVAC, plumbing, & fire suppression systems. In 2023, Todd completed his Professional Engineering certification and joined TECA as the Manager of Programs Development.

Session Descriptions

Understanding the Code Changes for DWV Transitions & Radon Mitigation

Cory Norman, IPEX

Session Description

This presentation focuses on two of the 2024 BCBC updates: DWV transitions and radon mitigation system rough-ins.

DWV Transitions: How we address DWV transitions is about to change because the new Sentences provide us guidance on this application. We will review the transition testing results from the burns that Sentences 3.1.9.4.(7) and (8) are based on and use common DWV system arrangements to understand how to apply the new sentences. The purpose of this is to help the construction community apply the new Sentences in a consistent way.

Radon Rough-ins: The changes related to radon mitigation are significant because, due to the removal of Table C-4, the entire province will be required to install a capped rough-in. For some municipalities it will be business as usual, but for the inspectors who are working in municipalities that were previously exempt from radon rough-ins, you will find this presentation an especially helpful resource to increase your radon knowledge.

We will discuss how radon collects in buildings and why it is a health concern, the difference between 'best practice' and 'code compliant' can be the difference between a functional rough-in or one that gets abandoned, and we will review the code verbiage to understand why radon rough-ins must be considered for all buildings and occupancies, not just Part 9 residential construction.

Cory Norman is a professional engineer who studied mechanical engineering at the University of Alberta and the Northern Alberta Institute of Technology. Currently he is the plumbing and mechanical regional engineer for IPEX, supporting the consulting and inspection community across western Canada. Prior to his seven-year tenure with IPEX, he started his professional career as a firestop specialist with Hilti before working as a code consultant at Jensen Hughes.

Session Descriptions

Practice Advisory: Professional Conduct Between Submitting Professionals and AHJs

Alice Krutchen, EGBC and Trevor Welsh, City of Surrey

Session Description

In September 2023, Engineers and Geoscientists BC published a practice advisory on *Professional Conduct Between Submitting Professionals and Authorities Having Jurisdiction*. This practice advisory addresses common communication challenges that arise between Submitting Professionals and AHJs during the approval and/or submissions processes. This presentation will provide an overview of the content of the advisory including practical considerations related to communication issues, and some lessons learned through situations handled via practice advice inquiries.

Alice Kruchten is a professional engineer and Practice Advisor with Engineers and Geoscientists BC. She is responsible for managing the development of the organization's professional practice guidelines, engaging with stakeholders to address professional practice concerns, and providing advice to registrants regarding practice issues. Alice holds a Bachelor of Applied Science (in Civil Engineering) and a Master of Engineering Leadership (in Integrated Water Management Engineering), both from the University of British Columbia.

Trevor Welsh – After attending the British Columbia Institute of Technology, where Trevor studied building construction technologies, he began his career as a Building Official working for the District of North Vancouver as a Plan Reviewer. Trevor worked for a number of years with the City of Port Moody as a Building Official, which involved working as a Plan Reviewer and Building Inspector including conducting plumbing plan reviews and inspections. He obtained his professional designation as a Registered Building Official, as well his Level 2 plumbing official certification, in 2017.

Through his career Trevor has held various supervisory and leadership roles within local government including, the Manager of Building, Bylaws, and Business Licences with the City of White Rock as well the Director of the Building Permits Division for the City of Abbotsford, he is currently the Director of the Building Division for the City of Surrey. He has also worked as a part-time instructor at the British Columbia Institute of Technology, instructing on building code courses.

Session Descriptions

The Second Egress: Building a Code Change

Conrad Speckert, LGA Architectural Partners & Jamie Harte

Session Description

The session will focus on a proposed building code change to allow for single exit stair conditions in multi-unit residential buildings of up to three storeys in Part 9, and six storeys in Part 3 of the National Building Code. The code change request was developed by LGA Architectural Partners and David Hine Fire Engineering. It is a recommendation of the 2023 National Housing Accord, the 2022 Ontario Housing Affordability Task Force, as well as the 2019 OAA Housing Affordability Task Group summary report and the City of Toronto's 2010 Midrise Performance Standards report. Discussion of the code change request will be followed by a presentation of the BC Housing Single Stair Report by PUBLIC Architecture based out of Vancouver.

Conrad Speckert is an intern architect at LGA Architectural Partners in Toronto with degrees from McGill and Waterloo. His graduate research proposed a building code change to allow for single staircase buildings and has evolved as CMHC-funded research project to change the National Building Code of Canada. He joined LGA as project manager for 'ReHousing the Yellowbelt,' a collaboration with the University of Toronto to study gentle densification and support multiplex zoning reform across residential neighbourhoods. He is well-versed in the design of "missing middle" and mid-rise residential buildings, having previously worked for architects in Toronto, Vancouver, Berlin, and Tokyo.

Structural Welding Requirements and the Building Code

Cristian Zanfir, CWB Group

Session Description

This presentation will cover the following topics:

- Building Code and structural welding certification requirements (Part 4 and Part 9)
- Welding certification requirements for welding fabricator and erectors
- Understanding welder qualifications
- Welding Inspection certification for inspectors and for welding inspection organizations

- The difference between good welds and bad welds
- Alternative welding standards

Cristian Zanfir joined CWB Group in 2004 when started his new career as a certification representative in Ontario region. During his career with the CWB Group he's held several roles like Procedure Verification Engineer, Supervisor Ontario Operations, Supervisor Procedure Verification Engineer and Electrodes Certification Department. Today, Cristian is working for the Office of Public Safety of the CWB Group as Manager Standards. His main role is to contribute to developing standards within a large number of standards committees of the AWS, ASME, CSA and ISO organizations. Cristian earned his Bachelor of Engineering in Welding also held a Level 2 Visual Welding Inspector certification.

Residential Heat Pump Requirements for Design & Installation

Gary Milligan, TECA

Session Description

Gary Milligan will present on the current requirements for the installation and design of heat pump systems in BC. He will discuss the trade qualification and permits required to complete the work and the proper design process to comply with the BCBC and best practices.

Gary will discuss the City of Vancouver's approach to permitting heat pump installations and how this approach should be expanded to address air to air heat pumps. He will discuss common errors in design and installation that result in underperforming systems or damage to the building.

Gary Milligan is a highly accomplished professional with over five decades of experience in the HVAC industry. Specializing in the design, installation, and maintenance of mechanical systems for residential projects, Gary is renowned for his expertise in integrating energy-efficient solutions and innovative technologies into his designs. He previously served as the President of TECA and recently transitioned to the role of Treasurer. In his current position, he continues to play a pivotal role in driving the organization's growth and success, advocating for excellence and collaboration within the industry. With his strong leadership skills and strategic vision, Gary is a respected and influential figure, dedicated to advancing best practices and promoting professional development in the field of HVAC.

Session Descriptions

Thermal Barriers

Brad Glazier, 3G Consulting Group

Session Description

Introducing the new CAN/ULC S-145 full scale corner room test for qualifying protective coverings for foamed plastic in both combustible and non-combustible construction.

Brad Glazier is the Principal of 3G Consulting Group and Technical Director for International Fireproof Technology Inc. He Has over 15 years' experience in the spray polyurethane foam insulation industry and over 10 years in the related fire protection market where responsibilities include testing, certification, new product development and Codes and Standards for National and International marketplaces. Brad started as a spray foam contractor which he then built into franchise of installers throughout Eastern Canada then into a specialty building product distributor company which he subsequently sold and now works directly with International Fireproof Technology and as a consultant to OEM manufacturers as a solution finder for today's demanding fire protection requirements. Brad is active in developing new standards and criteria for the use of intumescent coatings over SPF insulation and has worked to bring the ICC-ES AC456 acceptance criteria to the USA and was instrumental in developing the new CAN/ULC S-145 standard for protective coverings for SPF in Canada.