

**MINISTRY OF ATTORNEY GENERAL
BUILDING AND SAFETY STANDARDS BRANCH
OFFICE OF HOUSING AND CONSTRUCTION STANDARDS
INFORMATION BRIEFING NOTE**

PURPOSE: For INFORMATION for David Eby, QC
Attorney General
and Minister Responsible for Housing

ISSUE: Proposed adoption of the 2021 Canadian Electrical Code.

SUMMARY:

- Through 2021, Technical Safety BC (TSBC) consulted with industry experts, clients, professional trade associations and the public who expressed general support to adopt the 2021 Canadian Electrical Code (CEC) in British Columbia.
- The 2021 CEC makes significant advancements in climate adaption practices and low carbon solutions that are aligned with British Columbia's CleanBC commitments while addressing safety risks.
- The CEC is developed over a three-year cycle through a consensus-based approach involving multiple stakeholders, including technical experts, regulators, government representatives, manufacturers, retailers, unions and professional associations, and consumers.

BACKGROUND:

- The *Safety Standards Act* (the Act) governs the safety of technical equipment, systems and worker qualifications. The Electrical Safety Regulation, which falls under the Act, currently adopts the 2018 CEC as the BC Electrical Code with one variation to support the economically important film and television industry. New editions of the CEC are adopted on an ongoing basis by all provincial jurisdictions.
- Administration of the Act throughout the province has been delegated to TSBC since 2004. TSBC shares administration of the Act with 10 local governments, mostly in the lower mainland, that have limited delegated authority for electrical and/or gas oversight (i.e., permitting and inspections).
- As per the Administrative Agreement Protocol between the Province and TSBC, legislative, regulatory, and policy priorities and initiatives are agreed to at semi-annual joint planning and prioritization sessions. The Province and TSBC work in collaboration when planning consultations that involve legislative and/or regulatory changes. As the technical safety experts, TSBC is responsible for leading technical analysis of new codes and consultations on code changes. This includes requesting comments and feedback from industry, the public, and other safety system participants.

DISCUSSION:

- On October 26, 2021, TSBC submitted a Request for Amendment to the Electrical Safety Regulation to adopt the 2021 CEC as the B.C. Electrical Code by May 2022.

- TSBC completed broad-based industry and public consultation throughout 2021. TSBC also collaborated with Ontario's electrical regulator, the Electrical Safety Authority, on its review of the 2021 CEC. Ontario will bring the 2021 CEC into force on May 5, 2022.
- The 2021 CEC introduces over 200 changes—81 per cent are editorial in nature, related to changing definitions or terminology, 12 per cent are more substantial and will improve safety by improving clarity through restructuring requirements or simplifying the code's application so that it is easier to reference and apply rules; and 7 per cent will have significant impacts on the sector by advancing safety through the provision of new rules for emerging technology.
- Significantly, the 2021 CEC makes advancements in climate adaptation practices and low carbon solutions and can support B.C. in meeting its CleanBC commitments. Key changes in this area include:
 - **Climate Risk Mitigation:** New requirements for the inspection of electrical equipment that has been exposed to water through flooding. This will provide the public and contractors clarity on what needs to be done to re-energize equipment that may have been impacted by floodwaters, which is a growing climate risk.
 - **Climate Risk Adaptation:** New requirements for electrical equipment rooms to be built above flood levels to adapt to and mitigate the risk of flooding.
 - **Low Carbon Alternatives:** A redefinition of "high voltage" from greater than 750 volts to greater than 1,000 volts to reduce barriers to the installation of modular photovoltaic systems without requiring further specialized training in high voltage systems for qualified electricians. Modular photovoltaic systems have proven safe due to their design. Installation will still require a qualified electrician. A corresponding amendment to section 7(4) of the Electrical Safety Regulation is also proposed. It would increase the voltage limit a holder of a class B electrical certificate of qualification may do work on from 750 volts to 1,000 volts. This will ensure that contractors who do work with photovoltaic panels and other low voltage systems do not have to undergo the costly process of recertifying the electricians they employ. TSBC's analysis has concluded that there are no safety concerns, and no other technologies are impacted.
 - **Home Energy Solutions and Resilience:** New provisions allow for home energy storage systems that store power from renewable systems during periods of high production and low demand to be installed safely in ancillary spaces, such as garages, where a fire separation wall is present between the installation site and dwelling space. Some stakeholders have raised concerns that the code rules may be too restrictive, preventing the use of home energy storage systems in buildings without non-living ancillary spaces (e.g., condominiums). However, energy storage systems, which are essentially large lithium-ion batteries, can pose a fire risk if damaged. Resulting fires cannot be extinguished using water and require specialized chemical firefighting foams and placing them inside habitable spaces can increase safety risks. ^{s.13}

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- The 2021 CEC also makes other advances in safety. These include new requirements to improve worker safety, in response to worker fatalities in Ontario, including requiring a means to visually verify that electrical supply to high voltage systems is disconnected before starting work on the system.
- The Province is committed to the harmonization of codes and standards across Canada through the reduction or elimination of variations, however TSBC is recommending adopting the 2021 CEC with the same variation that was made to the 2018 edition to allow the use of temporary t-tap connectors (an electrical connection commonly used in B.C.'s large-scale film and entertainment industry). This variation was asked for by industry and TSBC's analysis has confirmed that the use of t-tap connectors poses no safety concern.

FINANCIAL IMPLICATIONS:

- No significant financial implications beyond usual costs associated with adoption of the updated CEC (e.g., purchasing new Code, training). Some costs may be incurred regardless of Code changes due to other requirements, such as ongoing training.
- TSBC's analysis has concluded that no changes would have a notable or problematic impact for residential housing costs.

CONSULTATIONS:

- For the first time, TSBC worked closely with Ontario's Electrical Safety Authority on its review and analysis of the 2021 CEC. This improved the efficiency of TSBC's review, both in terms of time and costs.
- TSBC also completed broad consultation with stakeholders and the public. This included convening an advisory panel comprised of industry experts, electrical contractors, certified workers, engineers who work on electrical systems, and training providers. The advisory panel was asked to review TSBC's analysis of the code changes as well as make recommendations.
- Stakeholders expressed general support for the adoption of the 2021 CEC.

INDIGENOUS PEOPLES CONSIDERATIONS:

- The *Safety Standards Act* is an act of general application and applies throughout the province. Adoption of the 2021 CEC will not affect Indigenous Peoples differently than the general population.
- The subject matter of this note does not relate to the *Declaration on the Rights of Indigenous Peoples Act*.

GBA+ OR DIVERSITY AND INCLUSION IMPLICATIONS:

- TSBC applied a GBA+ lens to its analysis of the 2021 CEC and concluded that it does not differently affect any group based on gender, race or other identity factor.

NEXT STEPS:

- Engagement with branch's advising solicitor and preparation of drafting instructions for submission to Legislative Counsel.
- Preparation of Ministerial Order package, including tagged Order, to amend the Electrical Safety Regulation and adopt the 2021 CEC for decision by the Minister.

OTHER MINISTRIES IMPACTED/CONSULTED:

- N/A

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Attachment(s)

None.

**MINISTRY OF ATTORNEY GENERAL
Building and Safety Standards Branch
Office of Housing and Construction Standards
BULLETS**

PURPOSE: Bullets for Dan Coulter
Parliamentary Secretary for Accessibility
Information requested by PS Coulter

Issue:

There are forty proposed changes that the Building and Safety Standards Branch anticipates for inclusion in the 2020 model National Building Code of Canada, which is anticipated for publication in Spring 2022. Publication of the code has been delayed due primarily to the effects of the pandemic. These proposed changes include one 'housekeeping' item that removes and replaces language throughout the code that is disrespectful in reference to people with disabilities, and the remainder that relate to the following themes:

BULLETS:

- Anthropometrics
 - Twenty of the proposed changes reflect recent anthropometric research.
 - Anthropometrics is the study of the human body and interactions with the built environment.
 - Examples of topics addressed in the proposed changes include:
 - stair riser height,
 - control heights such as for light switches and door hardware,
 - illumination at controls and signs, and
 - colour contrast of doors.
 - Many proposed changes relate to clear maneuvering space (clear space for paths of travel, turning spaces, doorways, ramps, and assembly seating) and are intended to account for the 90th percentile of the wheelchairs commonly in use (increase from about the 50th percentile of wheelchairs used currently).
- Inclusive Plumbing Accommodations
 - Five changes propose that when plumbing facilities are provided, accessible plumbing facilities be among them.
 - Proposed changes for accessible drinking fountains and bottle filling stations mimic BC's existing variations.
 - Proposed changes for universal washrooms (to allow greater assistance of caregivers) catch up in part to BC's existing variations but also go further to require adult-sized changing spaces and emergency lighting.
- Inclusive Building Entrances
 - Two changes propose that all building entrances be accessible and that all entrances be provided with power-operated doors.

- This is a higher cost proposal, however early results from the Building Code Accessibility survey responses rank power-operated doors at building entrances as a top priority.
- Inclusive Access to Other Floor Levels
 - Three proposed changes resemble existing BC variations to require access to more floor areas while allowing small exemptions for areas that do not contain separate facilities (e.g., additional seating with no special viewing or features).
- Inclusive Signage and Notification
 - Nine proposed changes relate to wayfinding and notifications such as alarm signals to provide adequate visual, auditory, and in specific circumstances, tactile information.
 - Many of these proposed changes resemble existing BC variations, such as requiring tactile walking surface indicators and visible alarms in more locations.

The new National Building Code changes will be considered as the work progresses to respond to the priority items identified through the Building Code Accessibility survey.

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