

AGENDA

For the 2030-01 Meeting of the National Model Codes Committee on Fire and Life Safety

In-person

3 March 2025

Code Cycle 2025–2030

Conduct of attendees at meeting

Chair to confirm agreement by all attendees at the beginning of every meeting

The Canadian Board for Harmonized Construction Codes' (CBHCC) Operating Procedures (OPs) outline the procedural rules for our meeting.

Conduct of participants

As a participant in the meeting of the National Model Codes Committee on Fire and Life Safety (NMCC-FLS), you agree to the code of conduct as outlined in the OPs.

This means—among other things—that you

- act with respect towards all contributors in the Harmonized Code Development System (HCDS);
- follow the principles of consensus-building;
- when suggesting information for consideration, identify yourself and whether you represent an organization, your role in the meeting, the source of any information to be shared and your relationship to the information;
- do not use audio or visual recording equipment during the meeting; and
- participate in the discussion only through the chair.

This also means that the committee chair has the discretion to:

- determine who will be heard;
- request that a person leave the meeting when the individual has become disruptive or if the person fails to identify themselves when asked; and
- modify the agenda to address the circumstances of the disruption.

Conflict of interest

Conflict of interest is a situation, whether real, apparent, or potential, in which a participant has private interests that could influence their participation within the HCDS or in which the participant could use their role in the HCDS for personal gain.

As a participant in the meeting, you must declare any known real, apparent, or potential, conflicts of interest. Subject to NMCC-FLS agreement, members who have a conflict of interest may participate in National Model Codes Committee and Task Group discussions as observers.

The chair will facilitate fair and balanced discussion of all matters. Members who have a conflict of interest are not permitted to chair discussions related to matters for which they have a conflict.

CANADIAN BOARD FOR HARMONIZED CONSTRUCTION CODES

National Research Council Canada

**National Model Code Committee on Fire & Life Safety
2030-01 Meeting**

DATE: 3 March 2025

TIME: 9 a.m.–5 p.m. (EST) on day 1

AGENDA

Item	SUBJECT
01.1.	Opening Remarks
01.2.	Approval of Agenda
01.3.	Reports
01.4.	New Business
.1	Orientation on HCDS
.2	Terms of reference for NMCC on FLS
.3	Terms of reference for tasks
.4	Review of public comments (PCF 1872)
.5	Work plan
.6	Code clarification
01.5.	Other Business
01.6.	Closing Remarks
01.7.	Date of Next Meeting

This agenda material will form part of the minutes of the 2030-01 Meeting of the CBHCC National Model Code Committee on Fire & Life Safety and should be kept as part of the record.

Appendix A

REPORTS

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.3. Reports

Action Requested: Decision Guidance Information

Summary

The chair gave a verbal report to the Canadian Board for Harmonized Construction Codes (CBHCC or Codes Board) at their January 24, 2025 meeting. The report was largely based on the information shown in the attached document and highlighted the narrow window for the development of proposed changes within this code cycle.

At the end of the 2020–2025 code cycle, the Standing Committee on Fire Protection (SC-FP) reported back on its activities to the CBHCC. The report presents the outcomes of the SC-FP’s work in fulfilment of its mandate for the 2020–2025 code cycle and summarize key recommendations for continued and future work.

One of which is tied to the publication of the *Grenfell Tower Inquiry: Phase 2 Report*, “*Report of the Public Inquiry into the Fire at Grenfell Tower on 14 June 2017*” and the recommendations of the Working Group on Fire Events (WG-FE). The SC-FP established the WG-FE to review the conditions associated with the major fire event at the Grenfell Tower and comment on the potential for a similar event to occur in Canada.

The WG-FE has recommended to proceed with the study of five items that could benefit from further investigation to limit the probability of a fire event similar to what occurred at the Grenfell Tower in London, UK on June 14, 2017 in Canada.

In this Agenda Package

1. *Chair’s Report to the CBHCC*
2. *200_SC-FP_2020-25_Final Report*
3. *300_Summary Report to the CBHCC from the SC-FP - Risk of Grenfell Tower Fire in Canada*

Chair's Report to the CBHCC

National Model Codes Committee on Fire and Life Safety (NMCC-FLS)

January 24, 2025 meeting

Purpose

Opportunity given to NMCC chairs to provide verbal updates on progress and bring any known issues to the attention of the CBHCC¹.

Activities

- Hosted a meeting with NRC Researchers (Dec. 10, 2024) on two tasks:
 - Single egress (with Max Kinateder)
 - Energy storage system (ESS) and electrical vehicle (EV) charging (with Cecilia Lam)
 - Discuss focus of research projects to identify potential gaps in current codes' provisions that would support the work of associated task groups (TGs)
- Non-FPT membership was approved by the Codes Board on Dec. 18, 2024
 - Lost one appointees
 - Still waiting confirmation from one
 - Feedback from association stakeholders looking for rationale why they were not appointed
- Selected membership of the TG on Single Egress
 - Pending confirmation of NMCC membership for the TG chair
 - Planned kick-off meeting of the TG at the end of January beginning of February
- A 3-day face-to-face kick-off meeting tentatively scheduled for March 3–5, 2025 in Ottawa, On. Contract for venues and hospitalities up for approval.
 - Objective:
 - Approve the terms of reference (ToR) of (9) TGs
 - Review public comments on EMTC² related proposed changes (PCF 1872–12 comments)
 - Training for members

Issues

- Deadline to submit new PCFs for the 2030 edition of the National Model Codes is currently spring 2028 public review.
 - This means that the PCFs must be handed out to Production & Marketing (P&M) in fall 2027 i.e. only approximately 2-½ years to develop PCFs on 9 tasks.

¹ Canadian Board for Harmonized Construction Codes

² Encapsulated mass timber construction

- Need to prioritize the tasks falling under the responsibility of the NMCC-FLS
 - The current NMCC's ToR is very limited in scope for the tasks
 - NMCC may wish to expand the scope of some tasks using a phase approach i.e. first tackling the task as currently scoped
- Delay progress on some tasks
 - Unexpected complexity of some tasks
 - Overcommitment of staff resources
 - Some tasks deferred to next code cycle

Standing Committee on Fire Protection (2020-2025)

FINAL REPORT TO THE CANADIAN BOARD FOR HARMONIZED CONSTRUCTION CODES

November 2024

1. INTRODUCTION

1.1. Objective

This final report for the Standing Committee on Fire Protection (SC-FP) for the 2020-2025 code cycle presents the outcomes of the SC-FP's work in fulfilment of its mandate and summarizes the SC-FP's key recommendations for continued and future work.

The report provides continuity and is intended to be referenced by the Canadian Board for Harmonized Construction Codes (CBHCC) and its development groups— such as the relevant National Model Code Committees (NMCCs)— as they assume responsibility for national model code development in the 2025-2030 code cycle and beyond.

2. OVERVIEW

2.1. Mandate

The SC-FP's mandate includes preparing recommendations for code provisions and other technical content located in the National Model Codes (NMCs) relating to:

- structural fire protection;
- combustibility of building materials;
- fire spread within buildings, including smoke movement;
- fire spread to adjacent buildings;
- suppression of fires; and
- fire protection of fire alarm and detection systems.

The SC-FP is responsible for provisions located in the following documents:

- Part 3 and Appendix D of Division B of the National Building Code of Canada (NBC)
- Parts 2, 5, 6 and 7 of Division B of the National Fire Code of Canada (NFC); and
- Parts 2 and 3 of the National Farm Building Code of Canada (NFBC).

A copy of the SC-FP's complete Terms of Reference (ToR) is provided in **Appendix A-1**.

2.2. Approach

In the 2020-2025 code cycle, the SC-FP focused on approved, priority tasks— as selected by the Canadian Commission on Building and Fire Codes (CCBFC) and reaffirmed by the CBHCC— in addition to completing maintenance and minor tasks. The SC-FP also participated in cross-committee coordination and reviewed public review comments, Code Change Requests (CCRs), and correspondence items throughout its term.

The SC-FP developed consensus-based recommendations for the CCBFC and CBHCC’s consideration on a variety of topics related to its mandate. For complex items requiring significant analysis and time for detailed discussions, the SC-FP struck Task Groups (TGs), Joint Task Groups (JTGs), and Working Groups (WGs) to conduct deliberations and provide recommendations back to the SC-FP for consideration.

Meeting details for the SC-FP and its TGs/JTGs were posted to the Codes Canada and CBHCC webpages with advance notice to enable public attendance; corresponding agenda packages were made available approximately two weeks in advance of public meeting dates.

2.3. Membership

The CCBFC appointed the SC-FP’s membership for the 2020-2025 code cycle effective from September 1, 2019 to August 31, 2024. On May 6, 2024, the SC-FP’s term was extended by the CBHCC to December 31, 2024 to align with the launch of the 2030 code cycle.

The SC-FP’s membership conforms to a matrix that balances regulatory, industry, and general interest categories of expertise in addition to geographical representation; a copy of this matrix is provided in **Appendix A-2**.

The SC-FP’s membership for the 2020-2025 code cycle included:

Voting

- Bruce Schultz (Chair)
- Andrew Harmsworth
- Anthony (Tony) Crimi
- Charles Burns
- David Johnson
- Eric Nei
- Gurjot Manku
- Jason Ryckman ⁽¹⁾
- John Gales
- Judy Jeske
- Jun'ichi Jensen ⁽¹⁾
- Keith Calder
- Marc-André Langevin
- Mark Heiderich ⁽¹⁾
- Michael (Jim) Burns ⁽¹⁾
- Natalie Tornatora
- Pamela Shinkoda
- Patrick Gautreau
- Paul Johnson ⁽¹⁾
- Stephen Watt ⁽²⁾
- Theresa (Tess) Espejo
- Wayne Smyth ⁽²⁾

Key stakeholders (non-voting)

- Rodney McPhee – Canadian Wood Council (CWC)
- Stamatina Chasioti – Cement Association of Canada (CAC)
- Michael Samuels – Canadian Institute of Steel Construction (CISC) ⁽¹⁾
- Brett Perras – Canadian Institute of Steel Construction (CISC) ^{(2), (1)}
- Sarah Majlesi – Canadian Institute of Steel Construction (CISC) ^{(2), (1)}
- Michael Colalillo – Canadian Institute of Steel Construction (CISC) ⁽²⁾

Ex officio (non-voting)

- Gian-Luca Porcari ⁽³⁾
- Shuo (Nick) Yu ⁽³⁾
- Julia Dalphy ⁽³⁾

Notes

⁽¹⁾ Resigned from the SC-FP before the end of the term

⁽²⁾ Appointed to the SC-FP following the start of the term

⁽³⁾ Lead Technical Advisor for the SC-FP, listed chronologically (assigned by Codes Canada)

2.4. Meetings

The SC-FP held forty-seven (47) teleconferences to complete eighteen (18) agenda packages in the 2020-2025 code cycle, as follows:

2020

- 2020-01 Meeting: Apr. 7
- 2020-02 Meeting: Apr. 29, May 12, May 13
- 2020-03 Meeting: May 14, Jun. 3, Jun. 10, Jun. 16, Jun. 30, Jul. 8, Jul. 14, Sep. 9, Sep. 22, Oct. 22, Nov. 3
- 2020-04 Meeting: Jul. 28
- 2020-05 Meeting: Sep. 23, Sep. 29, Oct. 22
- 2020-06 Meeting: Nov. 26, Dec. 17

2021

- 2020-07 Meeting: May 6, May 13, Jun. 1
- 2020-08 Meeting: Oct. 26, Oct. 27

2022

- 2020-09 Meeting: May 2, May 4, May 5, Jun. 14
- 2020-10 Meeting: Sep. 20, Sep. 22, Oct. 4

2023

- 2020-11 Meeting: Mar. 2, Mar. 9, Mar. 16
- 2020-12 Meeting: Jun. 2, Jun. 5
- 2020-13 Meeting: Sep. 14
- 2020-14 Meeting: Nov. 20

2024

- 2020-15 Meeting: Feb. 29, Mar. 1
- 2020-16 Meeting: May 30, May 31
- 2020-17 Meeting: Aug. 15, Sep. 3
- 2020-18 Meeting: Nov. 27

A summary of the SC-FP's meetings and their key outcomes is provided in **Appendix B**.

2.5. Record-keeping

2.5.1. Meeting Materials and Minutes

Records pertaining to the business of the SC-FP for the 2020-2025 code cycle are copied to a repository managed by Codes Canada on TeamworkPM (an online project management platform).

These records include:

- Agenda packages and handouts
- Records of discussion (i.e. approved meeting minutes)

Access to the public-facing portion of the repository— also known as the 'Observers Public Space'— is available to the public upon request.

2.5.2. Actions Arising

A running list of the SC-FP's Actions Arising was maintained throughout the 2020-2025 code cycle.

From the SC-FP's 2020-12 meeting onwards, an Actions Arising table was generated and updated for inclusion in every agenda package of the SC-FP.

2.5.3. Cross-Committee Coordination

In some instances, TeamworkPM was used to facilitate the SC-FP's cross-committee coordination activities in between meeting dates (at the SC-FP Chair's discretion). Typically, this was leveraged for items that were not expected to raise concerns or create conflicts with respect to the SC-FP's mandate.

To ensure that the results of asynchronous review periods were appropriately captured in the public record, summary tables containing their key details were included in subsequent agenda packages for information on a regular basis.

2.6. Reporting to the CCBFC and CBHCC

The SC-FP corresponded with the CCBFC and CBHCC through various communication mechanisms, including:

- Progress Reports (submitted annually by the SC-FP Chair to the CCBFC) – 2020, 2021, 2022
- Dashboard Updates (verbal reports by the SC-FP Chair to the CBHCC) – from 2023 onwards, as requested
- Memorandums (formal written correspondence) – as needed
- Participation by the SC-FP Chair at CCBFC and CBHCC meetings (including public meetings) – throughout

3. OUTCOMES

3.1. Items carried over from the 2015-2020 code cycle

At the beginning of its term, the SC-FP focused on addressing comments pertaining to twenty-five (25) proposed changes forms (PCFs) that were carried over from the 2015-2020 code cycle following the 2019 and 2020 national public reviews.

Following its review of the public comments, the SC-FP decided to withdraw one PCF (1526) and recommend the remainder for publication, which pertain to the following subjects:

- Encapsulated Mass Timber Construction (EMTC) – PCFs 1024, 1027, 1525
- Safety Glazing – PCF 1444
- Home-Type Care Occupancies – PCF 1529
- Penetrations – PCFs 1361, 1499, 1500, 1501, 1502, 1505, 1506, 1508, 1515, 1517, 1523, and 1576
- Large Farm Buildings – PCFs 1417, 1418, 1420
- Fire and Sounds Table – PCF 1496
- Others (varia) – PCFs 1314, 1312, 1493

Subsequently, these PCFs were published in the 2020 edition of the NMCs.

3.2. Approved Tasks

For each of its approved, priority tasks (as identified on its Work Plan), the SC-FP developed proposed changes and recommendations for consideration by the CCBFC and CBHCC.

A list of the SC-FP's TGs and JTGs for completing prioritized work in the 2020-2025 code cycle is provided in **Appendix C**.

For further details on the seventeen (17) individual PCFs related to approved tasks developed by the SC-FP in the 2020-2025 code cycle, please refer to the summary list that is provided in **Appendix D**.

3.2.1. Encapsulated Mass Timber Construction (EMTC)

The SC-FP and its Task Group on Encapsulated Mass Timber Construction (TG-EMTC) developed proposed changes to address five outstanding CCRs related to the introduction of 12-storey EMTC into the NMCs.

The proposed changes:

- increase the maximum physical height of permitted EMTC buildings classified as Group C to 50 m;
- increase the maximum physical height of permitted EMTC buildings classified as Group D to 50 m;
- revise the requirements for mid-rise combustible buildings regarding cladding and street frontage;
- revise the encapsulation requirements for mass timber elements based on recent research;
- expand the application of encapsulation materials from two to three layers of Type X gypsum board with a greater encapsulation rating;
- revise the minimum requirements for and exceptions to the encapsulation of mass timber elements; and
- clarify the requirement for the maximum exposed surface area of structural mass timber walls during building construction and introduces an explanatory Note.

3.2.2. Fire Performance of Floor Assemblies in Houses (FPFAH)

This task was joint between the Standing Committee on Housing and Small Buildings (SC-HSB), the Standing Committee on Use and Egress (SC-UE), and the SC-FP. The Lead SC was the SC-HSB.

The Joint Task Group on Fire Performance of Floor Assemblies in Houses (JTG-FPFAH) was asked to provide recommendations in response to three questions from the CCBFC regarding the minimum level of structural performance for floor assemblies in houses when exposed to fire, considering the safety of the occupants and the emergency responders.

The SC-FP reviewed a draft of the JTG-FPFAH's final report through a cross-committee coordination process that took place over Spring 2023.

After processing the comments received, the JTG-FPFAH's final report, *Joint Task Group on Fire Performance of Floor Assemblies in Houses Report*, was submitted to the CBHCC for consideration on June 15, 2023.

3.2.3. Insulation and Exterior Cladding (InsExtCladding)

The development of proposed changes to replace the existing references to test methods for the evaluation of thermal barriers for foamed plastic insulation in the NBC began in the previous (2015-2020) code cycle, but was deferred for further consideration until the 2020-2025 code cycle.

The proposed changes:

- replace existing references to CAN/ULC-S101, *Fire Endurance Tests of Building Construction and Materials*, with references to CAN/ULC-S124:2018, *Standard Method of Test for the Evaluation of Thermal Barriers for Foamed Plastic* where appropriate.

Furthermore, the SC-FP and its Task Group on Insulation and Exterior Cladding (InsExtCladding) developed proposed changes to introduce a new standard test method into the NBC for determining the effectiveness of protective coverings over foamed plastic insulation.

The proposed changes:

- introduce references to CAN/ULC-S145:2018, *Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic Insulation – Full-Scale Room Test*, in the NBC; and
- maintain harmonization between the provisions in Parts 3 and 9 of Division B of the NBC for the protection of foamed plastics.

3.2.4. Alterations to Existing Buildings (AEB)

The work on Alterations to Existing Buildings (AEB) in the 2020-2025 code cycle focused on:

- establishing a framework for the proposed Parts in the NBC and NECB, and
- developing requirements that improve the energy performance of buildings.

While the SC-FP's own task on Alterations to Existing Buildings – Fire Protection (AEB-FP) was put on hold for the 2020-2025 code cycle, the SC-FP contributed initial insight on the proposed defined terms and overall approach for AEB before later reviewing the resultant proposed changes in full through cross-committee coordination.

Additionally, representatives from the SC-FP remained active in coordinating the review of technical provisions (as developed by other TGs) throughout the 2025-2020 code cycle as members of the Coordination Committee on Alterations to Existing Buildings (CC-AEB).

3.2.5. Updates to Referenced Standards

The SC-FP participated in this maintenance task— which is shared between all of the SCs— on a continuous basis to review update requests received from Standard Development Organizations (SDOs) pertaining to referenced documents that are listed in the NMCs.

For the 2020-2025 code cycle, the two opportunities to update Table 1.3.1.2. ('Documents Referenced in the National [Model Code] of Canada') of the NBC, NFC, NPC, and NECB were captured in:

- PCF 1806 – for the mid-cycle update (for inclusion in the interim edition of the 2020 NMCs), and
- PCF 2096 – for the end-of-cycle update (for inclusion in the first edition of the 2025 NMCs).

The SC-FP regularly reviewed update requests within its mandate; this included processing:

- twenty-one (21) updates that had been carried over from the 2015-2020 code cycle, and
- nineteen (19) updates that were received during the 2020-2025 code cycle.

Additional update requests were also reviewed by the SC-FP; however, many had been superseded and/or did not require further action (often due the nature of the request being strictly related to a reaffirmation).

3.2.6. PT-led Task on Spatial Separation and Exposure Requirements for Large Farm Buildings

In the 2015-2020 code cycle, the Standing Committee on Hazardous Materials and Activities (SC-HMA), the SC-UE, and the SC-FP developed requirements for a new part in Division B the NBC 2020 ('Part 2 – Farm Buildings') through a Joint Task Group on Large Farm Buildings (JTG-LFB). The JTG-LFB had considered addressing limiting distances for large farm buildings, but the work was not completed in time for consideration in the 2020 NMCs.

The CCBFC and CBHCC agreed to prioritize several Provincial/Territorial (PT)-led tasks for the 2020-2025 code cycle as part of a pilot project for integrating their proposals into the national model code development system.

One of these PT-led tasks pertained to the aforementioned spatial separation requirements for large farm buildings. The Province of Ontario (ON) led the work to develop proposed changes through a PT-led WG consisting of participants from various provincial ministries.

The proposed changes were referred to the SC-FP for guidance and review on several occasions, including before and after public review.

The proposed changes:

- introduce requirements for the spatial separation and exposure protection of large farm buildings;
- facilitate the introduction of the property protection sub-objective (OP3) to farm building requirements in Division A and Part 2 of Division B of the NBC;
- facilitate the introduction of the property protection sub-objective (OP3) and Intent Statements to farm building requirements in Division A of the NFC; and
- introduce intent statements and attributions to the property protection sub-objective (OP3) for existing farm building requirements in Division B of the NFC.

3.3. Minor Tasks

The SC-FP and its WGs developed proposed changes to address a variety of minor tasks in the NMCs pertaining to subject areas such as:

- Spatial Separation Table Values
- Smoke Dampers
- Fire Events
- Sprinkler Terminology
- Fire Load Combinations (Commentary A)
- Penetrations
- Combustible Components in Pools and Spas
- Superimposed Occupancies
- Combustible Projections
- Continuity of Fire Separations
- Rooftop Enclosures
- Gypsum Standards and Terminology
- Floor Assemblies over Basements
- Firestopping at Perimeter Joints

Note: This list is non-exhaustive, though it includes a meaningful selection of topics addressed as minor tasks.

For further details on the forty-six (46) individual PCFs related to minor tasks, please refer to the summary list that is provided in **Appendix D**.

3.4. Code Change Requests (CCRs)

The SC-FP reviewed over eighty (80) CCRs during the 2020-2025 code cycle, with some of the CCRs resulting in proposed changes.

A list of CCRs reviewed by the SC-FP in the 2020-2025 code cycle is provided in **Appendix E**.

4. RECOMMENDATIONS

4.1. Continued work (carry-over items)

4.1.1. PCFs posted as part of the Fall 2024 public review

Proposed changes carrying over from the SC-FP due to their inclusion in the Fall 2024 public review are as follows:

- PCF 1872 (EMTC) – resubmitted to the Fall 2024 public review after significant technical revisions
- PCF 2096 (Ref. Docs.) – submitted to the Fall 2024 public review to accommodate end-of-cycle updates

It is recommended that the development group assigned to address public comments pertaining to these PCFs includes members with expertise in fire protection and/or who are already familiar with the work of the TG-EMTC and/or the SC-FP in the 2020-2025 code cycle.

4.1.2. PCFs recommended for the next available public review

Proposed changes carrying over from the SC-FP that are ready for consideration in the NMCs and have already been recommended for public review are as follows:

- PCF 1781 (minor task) – developed after the final deadline for consideration in the 2025 NMCs
- PCF 2038 (minor task) – developed after the final deadline for consideration in the 2025 NMCs

It is recommended that these PCFs be posted as part of the next available public review, and that the development group assigned to address public comments pertaining to these PCFs includes members with expertise in fire protection and/or who are familiar with the work of the SC-FP in the 2020-2025 code cycle.

4.1.3. PCFs deferred for further development/consideration

Items carrying over from the SC-FP that were deferred for further development and/or consideration are as follows:

- PCF 1854 (minor task) – deferred by the CBHCC for consideration in the 2025-2030 code cycle
- PCF 1807 (minor task) – deferred by the SC-FP further development in a future code cycle

It is recommended that PCF 1854 be considered by the NMCC on Harmonization in the 2025-2030 code cycle for inclusion in the 2030 NMCs; harmonization is listed as a priority on the CBHCC's approved 2030 Work Plan.

It is recommended that PCF 1807 be further developed in a future code cycle; potentially in the 2025-2030 code cycle, as part of the task on 'Large Farm Buildings' (which is listed as 'on deck' on the CBHCC's approved 2030 Work Plan).

4.1.4. PCFs referred for further development/consideration

Items carrying over from the SC-FP that were referred for further development and/or consideration are as follows:

- PCF 1685 – referred by the SC-FP to its task on 'Protection of Exterior Building Face', which is listed on its Work Plan but was not selected as a priority for the 2020-2025 code cycle
- PCF 1681 – referred by the SC-FP to its task on 'Distilleries (Major Occupancy of Distillery)', which is listed on its Work Plan but was not selected as a priority for the 2020-2025 code cycle
- PCF 1701 (minor task) – referred by the SC-FP to the SC-HSB, however was not reviewed by the SC-HSB until after the final deadline for consideration in the 2025 NMCs
- PCF 1697 (minor task) – referred by the SC-FP to the SC-HSB, however was not reviewed by the SC-HSB until after the final deadline for consideration in the 2025 NMCs

It is recommended that PCFs 1685 and 1681 be revisited in a future code cycle if/when the development of proposed changes related to their subject matters is undertaken.

It is recommended that PCFs 1701 and 1697 proceed as recommended by the SC-HSB, or be handled as minor tasks in the 2025-2030 code cycle and considered for inclusion in the NMCs pending public review.

4.1.5. PCFs pending continued work of a minor task

Items carrying over from the SC-FP that remain under development as part of a minor task are as follows:

- Automatic Sprinkler Systems – future PCF(s) to address WG report (as decided by the SC-FP)
- Foamed Plastic for Insulation of Air Ducts – future PCF(s) to develop CCR 1680 (as decided by the SC-FP)

It is recommended that PCF development for each item listed above continues to be handled as a minor task in the 2025-2030 code cycle.

4.1.6. Summary Report on the Risk of Grenfell Tower Fire in Canada

In January 2021, the CCBFC's Executive Committee (EC) requested that the SC-FP monitor the investigation of the Grenfell Tower Fire. In June 2021, the SC-FP accepted an interim summary report, *Interim Summary Report to the SC-FP from the WG on Fire Events – Risk on Grenfell Tower Fire in Canada*, which was based largely on the Grenfell Tower Inquiry's Phase 1 Report, and agreed to submit it to the CCBFC's EC.

In Fall 2024, the Grenfell Tower Inquiry's Phase 2 Report was published. In light of this, the CBHCC informed the SC-FP Chair that it would be receptive to receiving and reviewing an updated report from the SC-FP on whether a fire like the Grenfell Tower Fire could occur in Canada given the current NBC and NFC requirements.

The SC-FP's updated report, *Summary Report to the CBHCC from the Standing Committee on Fire Protection: Risk of Grenfell Tower Fire in Canada*, was submitted to the CBHCC for consideration on December 3, 2024.

It is recommended that the CBHCC:

- pursues the opportunities outlined in the report in the 2025-2030 code cycle,
- maintains a development group to continue monitoring significant fire events in the world, and
- encourages all persons and organizations involved (directly or indirectly) in building construction, alteration, ownership, and fire response to review the conclusions of the Grenfell Tower Phase 2 report for opportunities to improve their processes in Canada.

4.2. Future work (outstanding items)

While the SC-FP completed its approved, priority tasks for the 2020-2025 code cycle (as assigned by the CCBFC and CBHCC), many approved tasks on its Work Plan (i.e. those that were not prioritized) remain outstanding.

The SC-FP reviewed the tasks listed on its Work Plan and assessed their level of priority on multiple occasions.

A simplified copy of the SC-FP's 2020-2025 Work Plan is provided in **Appendix F**.

It is recommended that the CBHCC includes the outstanding tasks from the SC-FP's Work Plan in its ongoing work planning exercises, and also considers them for bottom-up work in the 2025-2030 code cycle and beyond.

5. CONCLUSION

5.1. Summary

In the 2020-2025 code cycle, the SC-FP has

- met virtually across 47 teleconferences to complete 18 agenda packages,
- finalized 25 PCFs for publication in the 2020 NMCs (carried-over from the previous cycle),
- led or actively participated in the development of over 60 PCFs for consideration in the 2025 NMCs,
- substantially completed all of its approved, priority tasks (as assigned by the CCBFC and CBHCC),
- processed over 30 referenced standard update requests,
- reviewed over 80 CCRs,
- responded to all incoming cross-committee coordination requests,
- participated in the pilot project for integrating PT-led tasks into national model code development,
- provided insight on SC priorities and identified opportunities for future/further work, and
- navigated the challenges and uncertainty of experiencing a global pandemic, pivoting to an adjusted code cycle format/schedule, and transitioning to a new governance model and reporting structure.

5.2. Acknowledgements

Thank you to the membership and observers of the SC-FP, its TGs, JTGs, and WGs for their commitment to the national code development system and consistently contributing their expertise, interest, and experience.

Thank you to the TG and JTG Chairs— David Johnson, Marianne Armstrong, Tony Crimi, and Judy Jeske— who took on added responsibility in support of the SC-FP’s approved tasks on EMTC, FPFah, and InsExtCladding, and AEB-FP, respectively.

Thank you to the SC-FP’s many WG Leads, who managed focused discussions, conducted detailed reviews, and provided reports and recommendations to the SC-FP that were instrumental in facilitating its work.

The dedication of time, energy, and resources from the national code development system’s volunteers directly enabled the completion of the SC-FP’s important technical work as outlined in this report (and beyond).

5.3. Closing Remarks from the SC-FP Chair

In addition to the acknowledgements of the previous section, I would like to express my gratitude to the CBHCC and Codes Canada for the support of the SC-FP and its members.

I would also like to thank the Technical Advisors that have assisted the SC-FP over this past code cycle, in particular Gian-Luca Porcari, Shuo (Nick) Yu and Julia Dalphy. Each of them has been very professional, efficient, knowledgeable, friendly and they have been immeasurably helpful to me as the SC-FP Chair.

It has been a pleasure and an honour to serve as Chair in this code cycle and to serve on the SC-FP for the previous two code cycles. I wish all the best to the incoming Chairs of the NMCCs and to the CBHCC and Codes Canada in the upcoming cycle.

Regards,



Bruce Schultz
Chair, Standing Committee on Fire Protection (2020-2025)

APPENDIX A-1 – Terms of Reference of the SC-FP

Reproduced from Appendix B-1 of the CCBFC's Policies and Procedures (2016):

Terms of Reference of the Standing Committee on Fire Protection (SC-FP)

The SC-FP prepares recommendations for requirements for building components and systems, including at construction and demolition sites, in the *National Model Construction Code Documents* relating to:

- structural fire protection;
- combustibility of building materials;
- fire spread within buildings, including smoke movement;
- fire spread to adjacent buildings;
- suppression of fires; and
- fire protection of fire alarm and detection systems.

The SC-FP is responsible for provisions located in the following documents:

- Part 3 and Appendices B ⁽¹⁾ and D of Division B of the National Building Code of Canada (NBC) Parts 2, 5, 6 and 7 of Division B of the National Fire Code of Canada (NFC); and
- Parts 2 and 3 of the National Farm Building Code of Canada (NFBC).

The SC-FP:

- prepares recommendations to the Canadian Commission on Building and Fire Codes (CCBFC) regarding the technical content of documents within its terms of reference;
- is responsible for developing objective-based versions of the requirements within its terms of reference;
- ensures requirements within its terms of reference are consistent with requirements in Part 9 of the NBC through cross-committee coordination with the Standing Committee on Housing and Small Buildings (SC-HSB);
- advises the CCBFC regarding changes to the scope and application of the NBC, the NFC and the NFBC and to the SC-FP matrix;
- advises the CCBFC concerning the need for documents ancillary to the NBC, the NFC, and the NFBC and for progeny documents for subjects not within the current scope of the NBC, the NFC or the NFBC;
- advises the CCBFC concerning the need for standards to be referenced by the NBC, the NFC or the NFBC and identifies needed changes to those standards; and
- advises the CCBFC on the need for *Code*-related research.

Only requirements that fit within the scope and at least one of the objectives of the NBC, the NFC and other documents as approved by the CCBFC can be considered.

The SC-FP provides advice to, and receives advice from, other committees.

The SC-FP may establish task groups and working groups to assist it in maintaining the existing contents of the *Codes* as well as in developing new subject areas within the committee's terms of reference.

Notes

⁽¹⁾ Appendix B was removed as of the NBC 2015, but remains listed in CCBFC's Policies and Procedures (2016).

APPENDIX A-2 – Matrix for the SC-FP

Reproduced from Appendix C-1 of the CCBFC’s Policies and Procedures (2016):

Matrix for the Standing Committee on Fire Protection (SC-FP)			
Interest to be reflected	Maximum number of members	Recommended minimum number of members	Suggested sources
Regulatory – voting			
Enforcement of regulations either directly or on behalf of AHJs in the fields of:			
- Fire prevention			Federal, provincial and territorial fire marshals’ or fire commissioners’ staffs, municipal fire services (fire chiefs or fire prevention officers)
- Building regulation			Federal, provincial, territorial and municipal authorities regulating buildings Private consultants serving exclusively as inspectors on behalf of AHJs.
Subtotal		6	
Industry – voting			
Design, design review, construction review			Architects, engineers, technologists and specification writers involved in design, design and construction review, evaluation, renovation/repair
Material and component manufacturers, suppliers, specialists			Materials interests, equipment suppliers, materials experts, maintenance personnel
Construction			Construction managers, building contractors and developers involved in construction, repair and renovation
Subtotal		6	
General interest – voting			
Building and facility operation and management			Building and facility owners or managers, public institutions or private firms
Research, testing and standards development			Individuals from universities, laboratories, agencies, consultants and other organizations involved in research, testing, certification and standards development
Insurance			Insurers, insurance brokers
Subtotal		6	
Total voting	20	18	
<i>Key stakeholder</i>		3	CWC, CSCC, CAC
Ex officio		2	NRC Construction staff – technical advisor(s), research advisor(s), and secretary(ies)
Non-voting total		5	
Grand total		23	

APPENDIX B – Summary of the SC-FP’s Meetings (2020-2025)

An overview of the SC-FP’s meeting details and outcomes for the 2020-2025 code cycle is as follows:

Meeting	Date(s)	Highlights
2020		
2020-01 (Virtual)	April 7, 2020	<ul style="list-style-type: none"> • Kick-off, welcome, introductions • Reviewed Work Plan
2020-02 (Virtual)	April 29, 2020 (Day 1) May 12, 2020 (Day 2) May 13, 2020 (Day 3)	<ul style="list-style-type: none"> • Addressed Fall 2019 public review comments for PCFs 1024, 1027, 1525 (EMTC); 1444 (Safety Glazing); 1529 (Home-Type Care); 1314, 1312, 1493
2020-03 (Virtual)	May 14, 2020 (Day 1) June 3, 2020 (Day 2) June 10, 2020 (Day 3) June 16, 2020 (Day 4) June 30, 2020 (Day 5) July 8, 2020 (Day 6) July 14, 2020 (Day 7) September 9, 2020 (Day 8) September 22, 2020 (Day 9) October 22, 2020 (Day 10) November 3, 2020 (Day 11)	<ul style="list-style-type: none"> • Addressed Winter 2022 public review comments for PCFs 1361, 1499, 1500, 1501, 1502, 1505, 1506, 1508, 1515, 1517, 1523, 1526, 1576 (Penetrations)
2020-04 (Virtual)	July 28, 2020	<ul style="list-style-type: none"> • Addressed Winter 2022 public review comments for PCFs 1417, 1418, 1420 (Large Farm Buildings) • Reviewed Work Plan (completed ranking of SC priorities)
2020-05 (Virtual)	September 23, 2020 (Day 1) September 29, 2020 (Day 2) October 22, 2020 (Day 3)	<ul style="list-style-type: none"> • Addressed Fall 2019 public review comments for PCF 1496 (Fire and Sound Tables)
2020-06 (Virtual)	November 26, 2020 (Day 1) December 17, 2020 (Day 2)	<ul style="list-style-type: none"> • Discussed 22 outstanding minor tasks • Reviewed 13 CCRs
2021		
2020-07 (Virtual)	May 6, 2021 (Day 1) May 13, 2021 (Day 2) June 1, 2021 (Day 3)	<ul style="list-style-type: none"> • Received updates from approved, priority Task Groups (TGs) • Received updates from Working Groups (WGs) on a variety of topics (minor tasks, CCR further analyses) • Recommended minor task PCF 1684 (<i>note: later deemed editorial</i>) • Completed review of 7 CCRs • Reviewed Work Plan (updated ranking of SC priorities)

2020-08 (Virtual)	October 26, 2021 (Day 1) October 27, 2021 (Day 2)	<ul style="list-style-type: none"> Received updates from approved, priority Task Groups (TGs) Received updates from Working Groups (WGs) on a variety of topics (minor tasks, CCR further analyses) Recommended minor task PCFs 1680, 1701, 1699, 1698, 1697 Reviewed 27 CCRs
2022		
2020-09 (Virtual)	May 2, 2022 (Day 1) May 4, 2022 (Day 2) May 5, 2022 (Day 3) June 14, 2022 (Day 4)	<ul style="list-style-type: none"> Reviewed updated Work Plan Reviewed updated ToRs for approved, priority tasks Provided guidance on approach for the approved task on AEB Received updates from Working Groups (WGs) on a variety of topics (minor tasks, CCR further analyses) Recommended minor task PCF 1786 Reviewed 24 CCRs
2020-10 (Virtual)	September 20, 2022 (Day 1) September 22, 2022 (Day 2) October 4, 2022 (Day 3)	<ul style="list-style-type: none"> Recommended PCFs 1791, 1792, 1794 (EMTC) Recommended PCF 1476 (InsExtCladding) Recommended minor task PCF 1786 Received updates from Working Groups (WGs) on a variety of topics (minor tasks, CCR further analyses) Recommended minor task PCF 1787 (<i>note: later deemed editorial</i>) Reviewed 2 CCRs
2023		
2020-11 (Virtual)	March 2, 2023 (Day 1) March 9, 2023 (Day 2) March 16, 2023 (Day 3)	<ul style="list-style-type: none"> Addressed 2022 public review comments for PCF 1806 (Referenced Docs); 1698, 1650 Provided guidance on AEB application, framework, defined terms Recommended PCFs 1870/1963, 1879 (EMTC) Recommended PCFs 1791, 1792, 1794 (EMTC) Processed 15 updates to referenced standards requests Recommended editorial change (<i>re: use of “not sprinklered”</i>) Recommended minor task PCFs 1845, 1856, 1841, 1847, 1854, 1938, 1939, sprinklered bundle (x19 additional PCFs), 1874
2020-12 (Virtual)	June 2, 2023 (Day 1) June 5, 2023 (Day 2)	<ul style="list-style-type: none"> Addressed Winter 2023 public review comments for PCFs 1791, 1792, 1794 (EMTC); 1476 (InsExtCladding); 1680, 1786 Recommended PCF 1872 (EMTC) Received Final Report (FPFAH) Provided guidance on PCF 1777 (PT-led Spatial Sep. for LFBs) Processed 3 updates to referenced standards requests Recommended language for Structural Commentary A (Fire Load Combinations) Recommended minor task PCF 1965 Reviewed Work Plan (reaffirmed ranking of SC priorities)

2020-13 (Virtual)	September 14, 2023	<ul style="list-style-type: none"> Recommended PCFs 1967, 1969 (InsExtCladding) Recommended PCF 1777 (PT-led Spatial Sep. for LFBs); PCFs 1935, 1936 (related) Recommended minor task PCFs 1994, 1806
2020-14 (Virtual)	November 20, 2023	<ul style="list-style-type: none"> Recommended PCFs 1918, 1919 (PT-led Spatial Sep. for LFBs) Deferred minor task PCF 1807
2024		
2020-15 (Virtual)	February 29, 2024 (Day 1) March 1, 2024 (Day 2)	<ul style="list-style-type: none"> Addressed Fall 2023 public review comments for PCFs 1870, 1963, 1879 (EMTC); 1699, 1841, 1847, 1874, 1965 Processed 8 updates to referenced standards requests Reviewed 2 CCRs (Single Egress)
2020-16 (Virtual)	May 30, 2024 (Day 1) May 31, 2024 (Day 2)	<ul style="list-style-type: none"> Addressed Winter 2024 public review comments for PCF 1872 (EMTC); 1967, 1969 (InsExtCladding); 1845, 1846, 1807, 2005, sprinklered bundle (x19 PCFs) Processed 6 updates to referenced standards requests Recommended minor task PCF 1781
2020-17 (Virtual)	August 15, 2024 (Day 1) September 3, 2024 (Day 2)	<ul style="list-style-type: none"> Addressed Spring 2024 public review comments for PCFs 1777, 1918, 1919, 1936 (PT-led Spatial Sep. for LFBs); 1938, 1939, 1994 Processed 8 updates to referenced standards requests
2020-18 (Virtual)	November 27, 2024	<ul style="list-style-type: none"> Accepted Summary Report on Grenfell Phase 2 (Fire Events) Recommended minor task PCF 2038 Discussed several outstanding correspondence items Received Final Report (Draft) for the 2020-2025 code cycle

APPENDIX C – Task Groups and Joint Task Groups of the SC-FP (2020-2025)

A list of the SC-FP’s Task Groups (TGs) and Joint Task Groups (JTGs) for the 2020-2025 code cycle is as follows:

Note: The complete Terms of Reference (ToR) for each the listed TGs and JTGs can be found in other records (such as in agenda packages of the SC-FP and/or in agenda packages of the TG or JTG).

Task Group on Encapsulated Mass Timber Construction (TG-EMTC)	
Scope (ToR)	To complete outstanding work related to the introduction of 12-storey encapsulated mass timber construction (EMTC) into the National Model Codes. This task includes addressing five outstanding requests for change (CCRs) that were received with regards to EMTC.
Membership	<ul style="list-style-type: none"> • David Johnson (Chair, <i>SC-FP</i>) • Andrew Harmsworth (<i>SC-FP</i>) • Charles Burns (<i>SC-FP</i>) • James Johnson • Kevan Jess • Marc-André Langevin (<i>SC-FP</i>) • Mark Heiderich (<i>SC-FP</i>) • Pamela Shinkoda (<i>SC-FP</i>) • Rodney McPhee (<i>SC-FP</i>)

Joint Task Group on Fire Performance of Floor Assemblies in Houses (JTG-FPFAH)	
Scope (ToR)	To determine the minimum level of performance for floor assemblies in houses, when exposed to fire, to limit the probability that occupants cannot safely escape and to limit the probability that emergency responders (including firefighters) will be exposed to an unacceptable level of risk while performing their duties, including a review of how other jurisdictions address the performance of floor assemblies in houses during a fire.
Membership	<ul style="list-style-type: none"> • Marianne Brown (Chair) • Alex Bwalya • Claude Gautreau • Ian MacDonald • Jack Mantyla • James Johnson • Richard Gratton • Robert Taylor • Rodney McPhee (<i>SC-FP</i>) • Sean Tracey • Tony Crimi (<i>SC-FP</i>) • Wayne Smyth (<i>SC-FP</i>)

Task Group on Insulation and Exterior Cladding (TG-InsExtCladding)	
Scope (ToR)	Finish reviewing the appropriateness of the new standard test method (CAN/ULC-S145, “Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic Insulation – Full-Scale Room Test”) for introduction into the National Building Code (NBC) to determine the effectiveness of protective coverings over foamed plastic insulation; and, address concerns from commenters from the winter 2023 public review.
Membership	<ul style="list-style-type: none"> • Tony Crimi (Chair, <i>SC-FP</i>) • Charles Burns (<i>SC-FP</i>) • Keith Calder (<i>SC-FP</i>) • Matteo Gilfillan • Michael (Jim) Burns (<i>SC-FP</i>) • Rob Brooks • Steven Craft

Coordination Committee on Alterations to Existing Buildings (CC-AEB)	
Scope (ToR)	Coordinate the development of technical provisions on the alteration to existing buildings task prioritized for the 2020-2025 code cycle between all standing committees potentially involved.
Membership (from SC-FP)	<ul style="list-style-type: none"> • Bruce Schultz (<i>SC-FP, as SC-FP Chair</i>) • Judy Jeske (<i>SC-FP, as Chair of the TG on Alteration to Existing Buildings – Fire Protection (TG-AEB-FP)</i>)

APPENDIX D – Proposed Change Forms (PCFs) Developed by the SC-FP (2020-2025)

A summary of eighty-eight (88) PCFs completed and/or developed by the SC-FP in the 2020-2025 code cycle is as follows:

Note: For most of the PCFs listed, the SC-FP was the responsible SC. For some of the PCFs listed, the SC-FP was a participating SC with substantial involvement in developing and/or reviewing the proposed change.

PCFs that the SC-FP reviewed but was not substantially involved in— including some that were reviewed through cross-committee coordination— are not listed, but can be found in other records (such as in agenda packages).

PCF	Title	Status
2015-2020 code cycle (carried over)		
Encapsulated Mass Timber Construction (EMTC)		
1024	New Subsection for Encapsulated Mass Timber Construction	Published (NBC 2020)
1027	Encapsulation Ratings	
1525	New Method of Calculating Fire-Resistance Ratings for Mass Timber Elements	
Safety Glazing		
1444	Safety Glazing in Locations Subject to Human Impact in Assembly Occupancies	Published (NBC 2020)
Home-Type Care Occupancies		
1529	Portable Extinguishers and Operation of Disconnect Switches for HVAC Systems in Home-Type Care Occupancies	Published (NFC 2020)
Penetrations		
1361	Required Rating for Fire Stop Systems	Published (NBC 2020)
1499	Firestopping of Penetrations by Service Equipment	
1500	Fire Separation Continuity	
1501	Combustible Piping Penetrations	
1502	Penetration by Outlet Boxes	
1505	Fire Stopping of Penetrations	
1506	Integrity of Fire Blocks	
1508	Rating of Fire Stops in Service Equipment Penetrations	
1515	Penetrations by Single Conductor Metal Sheathed Cables with Combustible Jacketing	
1517	Firestopping of Combustible Outlet Boxes	
1523	Rating of Fire Stops in Concealed Spaces	

1576	Penetrations through Fire Separations (Part 9)	Published (NBC 2020)
1526	Firestopping of Penetrations by Wires and Cables (NBC)	Withdrawn
Large Farm Buildings		
1417	General Technical Requirements	Published (NBC 2020)
1418	"Fire Protection and Occupant Safety	
1420	Technical Requirements for Large Farm Buildings in the NFC	Published (NFC 2020)
Fire and Sound Tables		
1496	Updates to Table 9.10.3.1.-A, Fire and Sound Resistance of Walls	Published (NBC 2020)
Other (varia)		
1314	Arena-Type Roof Assemblies	Published (NBC 2020)
1312	Foamed Plastic Insulation in Exterior Walls	
1493	Emergency Power for Pumped Water Supplies for Sprinkler Systems	
2020-2025 code cycle		
Encapsulated Mass Timber Construction (EMTC)		
1791	Combustible Cladding and Street Frontage of Mid-rise Combustible Buildings	Recommended for publication (NBC 2025)
1792	Increase Height Limit for EMTC Buildings in Group C	
1794	Increase Height Limit for EMTC Buildings in Group D	
1870	Exposure of Mass Timber Elements	
1963		
1872	Revisions to Protection Requirements for EMTC During Construction (NFC)	Resubmit for public review (posted as part of the Fall 2024 public review)
1879	Revisions to Protection Requirements for EMTC During Construction (Minor task)	Recommended for publication (NFC 2025)
Insulation and Exterior Cladding		
1476	Testing of Protection for Foamed Plastic Insulation	Recommended for publication (NBC 2025)
1967	New Standard for Testing of Protective Coverings over Foamed Plastic Insulation	
1969	New Part 9 Provision with Cross-Reference to a Standard for Testing of Protective Coverings over Foamed Plastic Insulation	

Referenced Documents		
1804	Updates to Referenced Documents (<i>interim update</i>)	Approved for publication (interim editions of NBC 2020, NFC 2020, NPC 2020, NECB 2020)
2096 ⁽¹⁾	Updates to Referenced Documents (<i>end-of cycle update</i>)	Recommended for public review (<i>posted as part of the Fall 2024 public review</i>)
Spatial Separation and Exposure Requirements for Large Farm Buildings (PT-led)		
1777	Spatial Separation and Exposure Protection	Recommended for publication (NBC 2025)
1918	Introduction of the OP3 Sub-Objective for Farm Buildings in the NBC	
1935	OP Objective and Intent Statement for Farm Buildings in NBC	
1919	Introduction of the OP3 Sub-Objective for Large Farm Buildings in the NFC	Recommended for publication (NFC 2025)
1936	OP3 Sub-Objective and Intent Statements for Large Farm Buildings in the NFC	Withdrawn (<i>by the CBHCC</i>)
Minor Tasks (varia)		
1684	Intent Statement Revision for Sentences 3.2.3.7.(3) and (4)	Editorial Change/Errata (NBC 2025)
1685 ⁽¹⁾	Reference CAN/ULC-S134 for Protection of Foamed Plastic	Referred (<i>to Task on 'Protection of Exterior Building Face' – not selected as a priority</i>)
1680	Spatial Separation Table Values	Recommended for publication (NBC 2025)
1701 ⁽¹⁾	Spatial Separation Table Values (<i>Part 9 considerations</i>)	Referred (<i>to the SC-HSB</i>)
1699	Activation of Smoke Dampers by Smoke Detectors	Recommended for publication (NBC 2025)
1700		Withdrawn
1681 ⁽¹⁾	Distillery as a medium-hazard industrial occupancy (<i>NBC, NFC</i>)	Referred (<i>to Task on 'Distilleries' – not selected as a priority</i>)
1698	Addition of a Cross-reference to Firestopping Provisions for Permitted Service Penetrations (<i>Part 3</i>)	Recommended for publication (NBC 2025)
1697 ⁽¹⁾	Addition of a Cross-reference to Firestopping Provisions for Permitted Service Penetrations (<i>Part 9</i>)	Referred (<i>to the SC-HSB</i>)
1786	Combustible Components in Swimming Pools and Hot Tubs	Recommended for publication (NBC 2025)

1787	Combustible Projections to Property Line	Editorial Change/Errata (NBC 2025)
1845	Introduction of References to Standards Related to Gypsum Board to Article 9.29.5.2.	Recommended for publication (NBC 2025)
1846	Introduction of References to Standards Related to Gypsum Board to Sentence D-1.5.1.(2)	
1847	Firestopping of Penetrations in Tested Fire-Rated Assemblies	
1874	Fire Protection of Seismic Isolation Systems	
1841	Terminology for Gypsum Board (Part 3)	
1854 ⁽¹⁾	Rooftop Enclosures as a Storey	
1856		Withdrawn
2005	Rooftop Enclosures as a Storey for Determining Elevator Car Dimensions	Recommended for publication (NBC 2025)
N/A*	Change “sprinklered throughout” to “sprinklered” <i>(*according to WG report, ~200+ instances)</i>	Editorial Change/Errata (NBC 2025)
1938	Removal of Redundant Sprinkler References	Recommended for publication (NBC 2025)
1939	Clarification of the Requirement for Sprinklers in Combustible Attic or Roof Spaces	
1910	Standardization of Terminology in NBC Sprinkler Requirements	
1912		
1915		
1916		
1917		
1920		
1921		
1922		
1924		
1925		
1926		
1927		
1928		

1929		Recommended for publication (NBC 2025)
1930		
1931		
1932		
1933		
1934	Standardization of Terminology in NFC Sprinkler Requirements	Recommended for publication (NFC 2025)
1965	"Removal of the Term ""Storage Tank"" from Part 3 of the NBC	Recommended for publication (NBC 2025)
1994	Exemptions List for Floor Assemblies over Basements	
1807	Introduction of Requirements for Screens and Curtains Used in Farm Buildings (<i>NFC</i>)	Withdrawn
1806 ⁽¹⁾	Fabrics, Films and Membranes Used in Farm Building Envelope Construction	Deferred (<i>to a future code cycle, potentially for the task on 'Large Farm Buildings' – identified as 'on deck' on the approved 2030 Work Plan</i>)
1781 ⁽¹⁾	Fire Testing Method of Firestop at Perimeter Joints	Recommended for next available public review (<i>in 2025-2030 code cycle</i>)
2038 ⁽¹⁾	Application of Automatic Sprinkler Systems and NFPA 13R Standard	Recommended for next available public review (<i>in 2025-2030 code cycle</i>)

Table Notes

⁽¹⁾ Proposed change to be carried over into the next code cycle(s); see **Section 4.1.** for more information.

APPENDIX E – Code Change Requests Reviewed by the SC-FP (2020-2025)

A list of CCRs reviewed by the SC-FP in the 2020-2025 code cycle is as follows:

Note: The CCRs listed appeared in at least one agenda package of the SC-FP and/or were specifically discussed by the SC-FP during the 2020-2025 code cycle. Some CCRs may not be reflected, such as if they were closed in advance of the 2020-2025 code cycle, incorporated into a different portion of the meeting (such as during a discussion on approved or minor tasks), or not presented to the SC-FP. The list below may not be exhaustive.

Mid-way through the code cycle, the CCR review process changed and the CBHCC took on the responsibility of reviewing ('triaging') CCRs for consideration in the national code development system.

CCR	Title
1253	Combustible Piping as Duct Work
1208	Major Occupancy Classification (Distilleries)
1183	Spatial Separation Table Values
1349	Wall exposed to another wall
1485	Fire Exposure on Both Sides of a wall
1126	Protection of Penetrations Through Fire Separations
1253	Combustible Components in Public Pools and Public Spas
892	Application of NFPA 13R in buildings with superimposed occupancies
852	Combustible projections to the property line
1567	Roof-top enclosure requirements for elevator service
1568	Roof-top enclosure and application of high building requirements
1569	Roof-top enclosure and application of standpipe system requirements
1680	Clarification of Requirements for Foamed Plastic Insulation of Air Duct Systems
467	Arena-type roof assemblies
1200	Factory-assembled panels and insulation
943	Thermal barriers for foamed plastics
1047	Fuel supply for diesel-driven fire pumps
1228	Smoke control in high buildings
1229	Combustible Piping Materials
1376	Assembly Occupancy
1436	SIP and Stressed Skin Panels
1518	Addressing Harmful Solar Reflections from Low-E Windows
1495	Relocatable Buildings

1497	Relocatable Buildings
1498	Relocatable Buildings
1499	Relocatable Buildings
1500	Relocatable Buildings
1501	Relocatable Buildings
1502	Relocatable Buildings
1526	Method of Calculation
1295	Third party inspection of sprayed fire-resistant materials & intumescent fire-resistant materials
1560	Addition of Stationary ESS Requirements - Part 9 Electrical Facilities
1561	Addition of ESS Requirements - Part 3 Storage Rooms
1562	Expansion of the Application of Emergency Planning to Areas containing ESSs
1564	Installation Code for Lightning Protection Systems
1590	Identification of construction type on commercial, industrial and multi-residential buildings
1690	Expansion of concessions for provision of optional sprinkler in one- and two-family dwellings
1570	Spatial Separation Requirements for Large Farm Buildings
1576	Safety Glazing Materials for Shower and Tub Enclosures
1653	New standard for design and installation of a water-based special fire suppression system
1682	Secondary Water Supply for High Buildings
1320	Introduce a new reference to a CSA standard for the installation of emergency power supply
1238	Building under 600m ² or 3 Storeys to be constructed to Part 3, 4,5,6
1045	Air-, Cable-, and Frame- Membrane Supported Structures - Fabrics
1044	Air-, Cable-, and Frame- Membrane Supported Structures - Roof Coverings
1027	Automatic Sprinkler System
1010	Active FP for Industrial wind turbines
998	Attributions for 3.2.5.7. - Water Supply
971	New Defined Term for 'Unprotected Openings'
860	FT1-rated wires and cables in noncombustible construction
779	Use of combustible piping materials in vertical service space
763	Penetration of rated fire separations with electrical outlet boxes
738	Cooking Stoves in High Risk Occupancies
727	Clarification of terminology for air-supported structure
675	High Challenge Firewalls

643	Fire Separations between Suites of Group D Occupancy
466	Generic Combustible Components for Exterior Walls of Noncombustible Building
395	Elevator - Firefighter Emergency Operation
1667	Revision to the Definition of Partition in NECB 2015
1579	Adequate Water Supply for Water-Based Automatic Fire Protection System
1580	Adequate Water Supply for Water-Based Automatic Fire Protection System
1596	Delete sentence 3.1.9.5.(5) DWV penetration Fire Separation
1597	Permitted combustible materials in a vertical service space
1693	Locking of Fire Department Connection (FDC) Cap and Standpipe Cap
1697	Expand the application of Part 9 Division B of NBC to small Group C, D, and F3 occupancy buildings
1704	Replace CAN/ULC-S505 with ANSI/CAN/UL/ULC 33
1755	Reliability of Sprinkler systems in residential buildings
808	Portable Extinguishers on Aerial Work Platforms
1096	Private Sewage Disposal System
1589	Inspection, Testing and Maintenance of Water-Based Fire Protection Systems
1595	Clarify the conditions to apply the exemption for combustible water distribution piping
1601	Spatial Separation and Exposure Protection from Farm Buildings
1602	Continuity of Fire Alarm Systems between Farm Buildings and Attached Part 3 Buildings
1753	Change the colour of paper to red on fire rated drywall
1800	Terminology and types of gypsum board (Part 3)
1801	Terminology and types of gypsum board (App. D)
2010	Requirements for Farm Buildings Intended for the Storage of Ammonium Nitrate
2011	Requirements for Farm Buildings Intended for the Storage of Baled Combustible Fibres
1815	Allow single egress for multi-unit residential buildings (Part 9) up to 3 storeys
1816	Allow single egress for multi-unit residential buildings (Part 3) up to 6 storeys

APPENDIX F – Work Plan of the SC-FP (2020-2025)

A simplified version of the SC-FP’s 2020-2025 Work Plan can be summarized as follows:

Note: The “SC Priority” fields reflect the SC-FP’s ranking and/or flags assigned to each task as of November 2023.

Task	Description	SC Priority
Completed		
Encapsulated Mass Timber Construction (EMTC)	Develop technical requirements for 12-storey encapsulated mass timber construction (EMTC).	2
Fire Performance of Floor Assemblies in Houses (FPFAH)	Determine the minimum level of performance for floor assemblies in houses, when exposed to fire, to ensure occupants can safely escape and firefighters can safely perform their duties.	
Insulation and Exterior Cladding (InsExtCladding)	Review the appropriateness of the new standard test method (CAN/ULC-S145, “Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic Insulation – Full-Scale Room Test”) for interior applications of thermal barriers.	3 Critical
Review of Referenced Standards (Ref. Docs.)	Review changes to referenced standards in the National Model Codes for the 2020-2025 code cycle.	
On Hold		
Alterations to Existing Buildings - Fire Protection	Assess the application and scope of Part 3 NBC code requirements and performance levels for existing buildings. Determine appropriate relaxations for AEB.	1
Review and Revision of Appendix D-2.3. Component Additive Method (CAM)	Reaffirm or update the Component Additive Method (CAM) outlined in Section D-2.3. in light of changes in construction material specifications, construction practices and standards and new research performed.	Important
Self-Service Storage Buildings (SSSB)	Clarify the construction requirements for this type of building based on the specific hazards associated with the storage of various goods. Phase 1 - single storey storage buildings - completed - published in NBC 2015. Phase 2 - multi-storey storage buildings - not started	Important
Safety Glazing	Phase I (<i>Complete</i>) - Review and provide recommendations proposing that traditional wired glass be not considered as safety glass and therefore not be located where subjected to human impact. Phase II - review terminology used in the NBC related to “fire protection/fire rated glazing” and review loading requirements for glass in guards in Part 3.	

NFC-NBC Coordination (Cross-Referencing and Relocating - Technical issues)	Relocate building design requirements from the NFC into the NBC with cross-referencing.	
Approved – not started <i>(later taken on by PT-led tasks as part of a pilot project)</i>		
Large Farm Buildings - spatial separation	This is a new JTG that will address spatial separation and other issues related to large farm buildings in 2020-2025 code cycle. The new task is a result of reviewing a series of new CCRs received in 2021.	
Day Surgery Clinics	Review requirements for fire alarms and detection system, smoke detectors, separations of suits, prohibition of occupancy combinations for the safety of the patients in day surgery clinics. (Task Name updated from "ambulatory care".)	
Distilleries (Major Occupancy of Distillery)	This task will address the issue related to major occupancy classification of distilleries in the NBC and NFC. The work of FP's WG on this topic will be forwarded to the JTG once approved.	
Approved – not started <i>(i.e. not selected as a priority for the 2020-2025 code cycle)</i>		
Harmonization with CSA B44 Standard on Elevators	Review the standard for possible conflicts with the NBC	Important
Fabric-Covered Buildings	Determine what protection is required, if any, to address the fire protection needs for pre-engineered metal or fabric-covered buildings.	Important
Combustible Construction	Review of the height and area limits in Part 3 of the NBC.	Important
Smoke Dampers	The task is to provide clarifications (if necessary) to the requirements in the NBC for the activation of smoke dampers.	Important
Buildings or Parts Thereof in Subsection 3.1.5.	Clarify the intent and application of Subsection 3.1.5. for noncombustible construction, which are intended to be applied to either the entire building or parts of buildings.	Urgent
Firewalls	Review the design of high challenge firewalls, analytical determination of fire resistance and the maintaining of integrity of fire barriers.	Urgent
Acrylic Stucco Finish	Review low permeance properties and combustibility of acrylic stucco finishes and using research, develop prescriptive requirements for acrylic stucco finishes.	
Emergency Safety Plan	This task is Phase II of Task on Fire Safety Plan (FSP) as recommended by the JTG on FSP. The new JTG on ESP is to address the emergency safety plan in the NFC.	
Factory-Assembled Panels	Review height limit for foam plastic insulation.	

Farm Buildings – Small Buildings	"Review and update the provisions for small farm buildings based on the National Farm Building Code (NFBC 1995). Develop related commentary material."	
Vegetated Roof Assemblies	Clarify how the NBC addresses vegetated roofs and make changes, if applicable.	
High-Intensity Residential Fires	Address recommendations 1 to 3 and 6 from the Alberta Municipal Affairs High Intensity Residential Fires (HIRF) Report	
Location of Fuel-Fired Appliances	Review existing requirements for adequacy in addressing the location of fuel-fired appliances and ensure harmonization with Part 3.	
Smoke Control in High-Rise Buildings	Review the requirements for smoke control in high rise buildings	
Solar Collectors	Review solar collectors on roofs and evaluate the risk due to fire & structural hazards.	
Water and Fire Service Pipes	Consider referring to NFPA 24, "Installation of Private Fire Service Mains and Their Appurtenances" as an applicable standard in the NBC and NPC.	
Combustible Dust	Review existing standards referenced in the National Building and Fire Codes related to combustible dust fire and explosion. Consider referencing new standards if necessary. The task group is to review CCRs (674, 1058, 1453, 1455) and a PCF (164).	
Special Fire Suppression Systems	Introduce reference to two new standards in the National Fire Code for clean agent fire extinguishing systems and water-mist fire protection systems.	
Small Restaurants	Consider a distinction be made in the NBC between "take-out" establishments with limited seating and other assembly occupancies.	
Protection of Electrical Conductors - Article 3.2.7.10.	Revision of the existing wording of Article 3.2.7.10. for clarity related to life safety equipment.	
Fire and Sound Transmission Class Ratings (2020-2025 Code Cycle)	Address issues that have been brought forward related to Table A-9.10.3.1.A and B. This is an ongoing technical task for Fire and Sound Transmission Class Ratings for the 2020-2025 code cycle.	
Combustible Piping as Duct Work	Allow combustible piping (CPVC, PVC, XFR) to be used as duct work with intumescent collars as fire stops where required and makes specific reference to fume hoods and clothes dryer applications.	
Optional Sprinkler in One- and Two-Family Dwellings	This task is to address CCR 1609 with regards to expansion of concessions for provision of optional sprinkler in one- and two-family dwellings.	

Protection of Exterior Building Face	This task is to consider revising Article 3.2.3.8. as recommended by FP's WG during the 2020-07 meeting and also to address an outstanding minor task related to insulation and exterior cladding (CCR 943, 944, 1071).	
Energy Storage Systems	With significant emerging research on the fire risks of energy storage systems, it would be helpful to review this research with a focus on its application to buildings constructed to Part 3 and Part 9 of the NBC.	
Fire Safety During Construction	With limited construction site fire statistics, it would be helpful to review the construction site safety provisions in the NFC to more types of buildings constructed in accordance with Part 3 of the NBC, and to explore the potential correlations between construction type and construction site fire losses.	
New standard for fire dampers	Consider replacing the reference to CAN/ULC-S505, "Fusible Links for Fire Protection Service" with a new standard ANSI/CAN/UL/ULC 33, "Standard for Heat Responsive Links for Fire Protection Service" in Sentence 3.1.8.10.(2) dealing with fire dampers.	
Continuity of Fire Separations	Address issues related to continuity of fire separations identified in a WG report: a) references to service penetrations to which firestopping or other protection is applicable, b) gaps or inconsistencies in the reference to minimum protection of service penetrations, c) gaps or conflicts in referencing firestopping or protection of openings, joints, and service penetrations, d) review Intent statements for consistency, and e) Consistency for requirements for joints.	
Have not requested approval		
Protection of Foamed Plastics (Thermal Barriers)	Rationalize and review the generic acceptable solutions for thermal barriers for the protection of foamed plastics (as there is some disparity in levels of performance across the NBC's prescriptive options).	

Summary Report to the CBHCC from the Standing Committee on Fire Protection: Risk of Grenfell Tower Fire in Canada

Updated November 2024

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1. Issue

A number of major fire losses involving exterior cladding systems have occurred world-wide. The most significant in terms of loss of life was the June 14, 2017 Grenfell Tower fire. Other fire events have resulted in loss of life, injuries, major damage, and significant dollar loss. The Standing Committee on Fire Protection (SC-FP) was asked to review the conditions associated with the major fire event at the Grenfell Tower and comment on the potential for a similar event to occur in Canada.

A working group (Working Group – Fire Events (WG-FE)) was established in January 2021 to study available reports and report to the SC-FP (See Section 2 below for WG-FE members). In particular, the WG-FE reviewed the construction details of the Grenfell Tower, the factors contributing to the major fire and significant and tragic loss of life and analyzed the mechanism by which the NBC would apply to a similar energy retrofit on an existing unsprinklered residential high building. An Interim summary report to the former CCBFC Executive Committee from the SC-FP, *‘Risk of Grenfell Tower Fire in Canada’* was issued in May 2021. That report presented the summary of the SC-FP analysis and identified areas for further work and investigation. That report is based largely on the *Grenfell Tower Phase 1 Report, Public Inquiry into the Fire at Grenfell Tower on 14 June 2017* (Grenfell Tower Phase 1 Report) issued October 2019. The Grenfell Tower Phase 1 Report focused on the event of June 14, 2017 to establish relevant facts.

The Grenfell Tower Phase 2 inquiry was paused in March 2020 due to the global pandemic, but hearings resumed May 17, 2021 to examine the circumstances and causes of the disaster in detail. Following the official release, in September 2024, of the *Grenfell Tower Inquiry: Phase 2 Report, ‘Report of the Public Inquiry into the Fire at Grenfell Tower on 14 June 2017’* (Grenfell Tower Phase 2 Report), the SC-FP reinitiated the WG-FE with new membership to review the Phase 2 report and issue an update to the original Interim Summary Report. The original mandate remained applicable. This report has been updated to reflect the findings of the Grenfell Tower Phase 2 Report to the extent relevant to the WG-FE mandate.

2. Working Group Members

WG-FE Phase 1: Jim Burns, Tony Crimi, John Gales, Mark Heiderich, Gurjot Manku, Judy Jeske (Lead)

WG-FE Phase 2: Keith Calder, Tony Crimi, Rodney McPhee, Judy Jeske (Lead)

3. Description of Grenfell Tower and June 14, 2017 Fire

3.1. Fire Event

The 24-storey residential building had undergone recent renovations. The renovation included window replacement, insulation was added to the exterior walls and the building was newly clad with aluminum composite material (ACM) panels. The renovation also included the addition of a decorative crown made of polyethylene materials at the top of the building.

The ACM panels were composed of a low-density polyethylene core between two thin aluminum sheets. The principal new wall insulation was a fire-retardant treated polyisocyanurate (PIR) foam of varying thickness. The PIR foam insulation was fastened to the existing exterior wall. There was a cavity of varying thickness/depth from 50 mm up to 140 mm between the PIR foam insulation and ACM panels.

The inclusion of the new insulation and ACM panels on the exterior wall increased the thickness of the exterior wall assembly. This resulted in the position of window glazing and framing being moved outward toward the exterior surface of the new cladding. The windows no longer sat flush with the concrete frame of the building but were flush with the exterior face of the new cladding. The new windows were smaller than the original windows resulting in gaps around the perimeter of the openings. These gaps were covered with a roofing membrane - ethylene propylene diene monomer rubber (EPDM). Unplasticized poly vinyl chloride (uPVC) frames and finishing were installed around each of the windows.

The fire originated in a major kitchen appliance located in a 4th floor suite of the building. The hot gases from the fire rose to the ceiling and began spreading outward to the walls, creating a hot upper layer. The hot gases impinged on the uPVC window jamb of the kitchen window, causing it to deform and collapse. This provided an opening into the cavity between the insulation and the ACM panels allowing flames and hot gases to enter.

The ACM panels and PIR foam insulation were a source of fuel on the exterior of the building. One of the principal mechanisms of fire spread was the melting and dripping of burning polyethylene from the crown, spandrel and column panels which ignited fires lower down. These fires then travelled back up the building façade.

As the fire was spreading on the exterior of the building, interior compartmentation was lost. The fire spread from the exterior of the building into the building and between interior compartments due to:

- a) window failure because of the intensity of heat and fire leap-frogging from the exterior to the interior,
- b) extractor fan units installed in the exterior wall of the kitchens deformed and became dislodged, and
- c) fire doors within the building failed.

A full communicating fire alarm system was not required because effective compartmentation was assumed. A "Stay-Put" strategy was in place and initially reinforced by first responders. As well, there may have been gaps in Fire Department training and standard operating procedures for fires of this type and scale.

It is also acknowledged that parts of the construction may have been of poor quality. Cavity barriers (fire blocking) may not have been installed at all in some areas or installed with silicone. Cladding rails that were installed vertically pierced the ends of the horizontal cavity barriers creating voids within the cavity for heat and gases to pass behind the ACM cladding system. Gaps as large as 140 mm were found.

It is also noted that the building was not protected by a system of automatic sprinklers. In addition, the building was designed with a single exit stairwell. Stairwell landings and lobbies were not clearly marked with the relevant floor numbers, creating confusion.

Other contributing factors may have included a lack of or failure of emergency power for elevators and possibly the smoke extraction systems.

The implications of this fire event are significant and far-reaching in terms of reduced confidence in the UK construction industry and the costs and impacts to the insurance industry are staggering.

3.2. Major Factors Contributing to the Fire Event and Large Loss of Life

The major building construction and fire safety operational factors contributing to this major fire event and large loss of life are considered to be the following:

- Combustible ACM panel with polyethylene core
- 50 to 140 mm wide cavity within the exterior wall without appropriate cavity barriers (fire blocking)
- uPVC window frames and finishing details
- Fire retardant treated PIR foam insulation
- Lack of sprinkler protection
- Lack and loss of integrity of interior fire compartmentation
- Single exit stairwell
- Lack of stairwell identification
- “Stay Put” procedures for occupants

As part of the continued inquiry, the Grenfell Tower Phase 2 Report followed up on two matters outstanding from the Grenfell Tower Phase 1 report with respect to fire development, including the respective contributions to the fire made by the ACM panels and the polyisocyanurate and phenolic insulation boards within the wall cavity. Testing concluded that the unmodified polyethylene foam in the cores of the ACM panels was the “...principal factor leading to fire growth...” and that the other insulation within the wall cavity was a “...decisive factor in promoting the growth of the fire.” In addition, further study and discussion reaffirmed that the original conclusions as to the means by which the fire had extended beyond the suite of fire origin to the exterior wall assembly were valid, i.e. that the finishing details of the window opening were inadequate to restrict fire spread to the exterior wall cavity.

It is noted that the Grenfell Tower Phase 2 Report concluded that design processes, UK enforcement practices, UK requirements for testing and certification as well as their application to the recent renovation at Grenfell Tower were also contributing factors to the fire event. With the exception of long-term Code development strategies being considered in Canada, the study of UK Codes, as well as design, construction and enforcement practices, procedures and implementation was outside the scope of this study for this report.

4. Application of the NBC to Existing Buildings Undergoing Alterations

The NBC applies to design, construction, and occupancy of all new buildings as well as the alteration of existing buildings. However, the extent to which the NBC is applicable in the event of an alteration is based on the scope of the proposed modifications.

The greater the scope of the modification, the greater the application of the NBC. Generally, features which are not within the scope of a building renovation project need not be upgraded to conform to the current NBC. However, building spaces, systems, elements, and features that are new, reconstructed, or modified within an existing building that is undergoing a renovation are generally required to meet the NBC. In addition, existing building spaces, systems, elements, and features which are affected by the renovation activity may be required to be upgraded where the renovation results in a negative impact on the existing element.

Ultimately, the application of the NBC to a building undergoing an alteration requires careful analysis of the performance of the building as a whole. When considering the application of the NBC, care must be taken to consider the context of the individual Code provisions so that there are no unintended consequences of narrowly applying individual Code provisions to an existing building.

In the case of an existing high building of residential occupancy, built originally without sprinkler protection as permitted by the Code that applied at the time of construction, the scope of an energy retrofit or cladding upgrade may not invoke the installation of sprinklers throughout the building even though a building of that size and occupancy would require sprinklers if newly constructed. In applying the latest Code to the scope of alterations, in some cases the NBC prescribes sprinklers as a condition of certain building features (i.e., combustible cladding or combustible materials in an exterior wall assembly per Articles 3.1.5.5. or 3.1.5.6.). In other cases, the NBC does not associate combustible materials with mandatory sprinkler protection but rather links the requirements to the conditions that apply to buildings prescribed (required?) to be noncombustible construction. However, the requirement for the building to be noncombustible if new is similar to the requirement for the building to be sprinklered if new. The difference is that the original building may have been required to be noncombustible construction (depending on date of construction) but not required to be sprinklered. In effect, modern Code

requirements are predicated on new construction over a certain size being sprinklered and, yet there are no guidelines or protocols or prompts to invoke sprinkler protection for buildings undergoing renovation regardless of the building size, occupancy or scope of renovation.

5. Key Differences Between As-Found Grenfell Tower and NBC

See Note

Contributing Factors	NBC 2020 Requirement	Notes
ACM panel with combustible polyethylene core	Noncombustible material (See Article 3.1.5.1)	Article 3.1.5.5. permits combustible cladding systems tested to CAN/ULC-S134 only for sprinklered buildings higher than 3 storeys
50 to 140 mm deep cavity without appropriate fire blocking	A single 25 mm deep air space without fire blocking, or fire blocking at every floor level, every ceiling level where ceiling forms part of an assembly required to have a fire resistance rating, and so that maximum horizontal dimension is not more than 20 metres and maximum vertical dimension is not more than 3 metres. (See Article 3.1.11.2)	Other options to exempt fire blocking apply such as filling the wall space with insulation or limited to noncombustible materials exposed within the wall space
uPVC window frames and finishing details	Combustible window sashes and frames permitted provided windows are vertically non-contiguous between storeys. (See Sentence 3.1.5.4.(5))	Changes accepted for NBC 2020 removed earlier provisions that limited windows to not more than 40% of the exterior wall per compartment, with each window installed as a separate unit and separated by not less than 1 metre vertically.
Fire retardant treated PIR foam insulation	Interior fire protection (See Article 3.1.5.15): <ul style="list-style-type: none"> Permitted with thermal barrier protection on interior face to adjacent space in the building Exterior fire protection (See Articles 3.1.5.5., 3.1.5.6. and 3.2.3.8.): <ul style="list-style-type: none"> Not permitted when spatial separation provisions limit area of unprotected openings (UPOs) to 10% or less. Permitted for buildings which are sprinklered throughout with concrete or masonry cladding (25 mm), or exterior wall assembly is tested to CAN/ULC-S134 	Potential misinterpretation between permission under NBC 3.1.5.15 in conjunction with 3.2.3.8. and conditions of 3.1.5.6.
Lack of sprinkler protection	New construction required to be sprinklered (See Article 3.2.2.47) Sprinklers required for use of combustible cladding and combustible materials in the exterior wall assembly (See Articles 3.1.5.5 and 3.1.5.6)	

Lack and loss of integrity of interior fire compartmentation	Continuity and integrity of fire separations required to be maintained (See Subsection 3.1.8.)	
Single exit stairwell	Two exit stairwells required (See Article 3.4.2.1.)	
Lack of stairwell identification	Stairwell and floor level identification required (See Article 3.4.6.19.)	
“Stay Put” procedures for occupants	Permitted for 2 stage fire alarm system upon notification to designated persons (See Article 3.2.4.4.)	Commonly implemented for high buildings as part of Fire Safety Plans with approval of local Fire Service

Note: Existing buildings undergoing alteration would be subject to analysis to determine the extent to which the National Codes apply.

6. Opportunities for Further Study and Investigation by SC-FP

The following elements of the National Codes are recommended for further study by the SC-FP in the context of the application of the National Codes:

1. Application of the NBC to existing unsprinklered buildings undergoing energy retrofit/cladding upgrades (i.e., building as a whole)
 - Potential to identify and make recommendations to the CBHCC (or SCCC) for modifications to Note to Division A Article 1.1.1.1. as applies to existing buildings undergoing renovations
 - Analysis of provisions which could be applied without invoking the installation of sprinklers throughout the building and any unintended consequences of these provisions.
2. Analysis of the reference to two different test standards for exterior walls; in particular CAN/ULC-S134 per Articles 3.1.5.5. and 3.1.5.6. and CAN/ULC-S101 per Article 3.2.3.8. (Already flagged to be addressed by future recommended Task Group).
3. Re-examination of the key Articles associated with exterior wall construction is recommended with respect to the hazard of fire growth and spread associated with exterior walls to determine whether the application of these Articles can be simplified while maintaining the existing level of performance. See the Appendix to this report for a full list of implicated Articles.
4. Consideration of the impact of melting and dripping of exterior wall materials through the development of performance criteria for tests.
5. Analysis of application of exception provisions within Subsection 3.1.5. as applies to the permission to use combustible insulation in a building that is required to be noncombustible; in particular the two permissive provisions in NBC Subsection 3.1.5. to use combustible/foamed plastic insulation in exterior walls with interior protection per Articles 3.1.5.14 and 3.1.5.15 versus permission with conditions for exterior protection per Articles 3.1.5.5. and 3.1.5.6.
6. In conjunction with SC-UE, investigation and consideration for conditions or limitations for the use of “Stay Put” instructions in Emergency Evacuation Procedures and by Fire Departments as part of fire ground operations, including consideration to establish detailed requirements for Personal Emergency Evacuation Plans for vulnerable persons. In addition, consider establishing more robust provisions associated with Fire Safety Plans and Emergency Evacuation Plans to ensure relevant and accurate design information can inform Fire Department response and staging in the event of a fire.
7. Review, revision and development of tools to facilitate the appropriate application of the requirements of the NBC. This may include notes, intent statements, commentaries, etc.

7. Conclusions

Notwithstanding the items identified for further study in Section 6 above, the SC-FP is of the opinion that the NBC generally provides sufficient provisions to limit the probability of a fire event similar to that which occurred at the Grenfell Tower in London, UK on June 14, 2017. This opinion assumes that design and construction of new

buildings and the alteration, reconstruction, demolition, removal, relocation and occupancy of all existing buildings conforms to the NBC and that good design and construction practices are applied. It also assumes that assembly testing, as mandated by the NBC, and the general practice of product certification in the market place is applied.

This conclusion is based on:

- the extent of contributing factors that resulted in the significant fire and large loss of life including
 - ACM combustible cladding panels, Incomplete fire blocking within the 50 to 140 mm wide cavity between insulation and back of ACM cladding system,
 - combustible insulation without adequate stay in place exterior cladding,
 - melting and dripping of burning polyethylene from the crown, spandrel and column panels which ignited fires lower down,
 - inappropriate window detailing and window installation materials,
 - lack of sprinkler protection,
 - lack and loss of integrity of interior fire compartmentation,
 - single exit, etc. in addition to operational and fire department response procedures.
- NBC provisions that prohibit the installation of combustible cladding/wall elements on unsprinklered buildings required to be of noncombustible construction when more than 3 storeys in building height or exhibit conformance to CAN/ULC-S134 fire test criteria;
- the NBC permits only a 25 mm air space without a grid of fire blocking in concealed spaces;
- the installation of foamed plastic insulation (whether treated with a fire retardant or not) would require the installation of a “stay-in-place” noncombustible cladding, cladding conforming to CAN/ULC-S134 (sprinklered building only) or 25 mm thickness of masonry or concrete;
- the building, if new, would require sprinkler protection, a minimum of 2 fire separated and remote exit stairwells, and a full fire alarm.

It is noted that the CCBFC/PTPACC Task Group on Alterations to Existing Buildings made recommendations to address the holistic issue of how to apply the Codes to buildings undergoing alterations and further work is expected to be undertaken to address those recommendations. Ongoing work at CBHCC proposes to introduce the first set of provisions into the 2025 NBC to be applicable to existing buildings undergoing alterations, but will be limited to energy upgrades, and otherwise invokes the current NBC. Note A-1.1.1.1. remains applicable for buildings undergoing alterations. It is understood that future work intends the development of fire protection provisions to be applicable to existing buildings undergoing alterations.

Also of note is that, in 2021, the SC-FP proposed to strike a Task Group to consider PCF 1685 to revise NBC Article 3.2.3.8. to incorporate the intent to protect against fire spread on and in exterior walls containing foamed plastics in buildings. This work has not yet begun.

Nevertheless, there may be potential for the current National Codes to be refined with respect to the following:

- Application of the NBC to existing buildings undergoing alterations similar to those which were implemented at Grenfell Tower, in particular to exterior wall modifications on existing unsprinklered buildings given that the NBC would otherwise require sprinklers for new construction
- Revision to testing requirements for exterior walls with combustible components based on a review of the fire hazards associated with exterior wall construction and configuration
- Coordination between the two permissive provisions in NBC Subsection 3.1.5. to use combustible/foamed plastic insulation with interior protection per Articles 3.1.5.14 and 3.1.5.15 versus permission with condition for exterior protection per Articles 3.1.5.5. and 3.1.5.6. It is recommended that this coordination be based on a review of the fire hazards associated with exterior wall construction and configuration
- Conditions or limitations for Stay Put instructions where clarification of Code intent for 2 stage fire alarm system operation may be needed
- New and updated supporting documentation to assist Code users

It is our recommendation that CBHCC National Model Code Committee on Fire and Life Safety proceed with further study of these items.

It is noted that the Grenfell Tower Phase 2 report identified significant procedural, organizational, and other failures linked directly to the major losses at Grenfell Tower. Although outside the scope of this study, it is strongly recommended that persons and organizations involved either directly or indirectly in building construction, alteration, ownership, and fire response review the conclusions of the Grenfell Tower Phase 2 report for opportunities to improve processes in Canada.

It is also recommended that the CBHCC endorse the continuing study of major fire events from around the world in order to analyze lessons learned and assess the opportunity to improve the National Codes of Canada from the findings of those studies.

Prepared by:

Standing Committee – Fire Protection, November 2024

SC-Appr.

8. [Appendix](#)

Fire hazard associated with exterior walls is currently addressed by separate Articles as a function of building characteristics. These include (significant Articles underlined):

1. Article 3.1.4.8., "Exterior Cladding"
2. Article 3.1.5.4., "Combustible Windows, Glazing and Skylights"
3. Article 3.1.5.5., "Combustible Cladding on Exterior Walls"
4. Article 3.1.5.6., "Combustible Components in Exterior Walls"
5. Article 3.1.5.14., "Combustible Insulation"
6. Article 3.1.5.15., "Foamed Plastic Insulation"
7. Article 3.1.5.24., "Decorative Wood Cladding"
8. Article 3.1.6.8., "Combustible Window Sashes and Frames"
9. Article 3.1.6.9., "Exterior Cladding"
10. Article 3.1.6.10., "Combustible Components in Exterior Walls"
11. Article 3.2.3.7., "Construction of Exposing Building Face"
12. Article 3.2.3.8., "Protection of Exterior Building Face"

Exterior wall fire hazard is also implicated by the following Articles:

1. Article 3.1.5.1., "Noncombustible Materials"
2. Article 3.1.5.2., "Minor Combustible Components"
3. Article 3.1.5.7., "Factory-Assembled Panels"
4. Article 3.2.3.9., "Protection of Structural Members"
5. Article 3.2.3.16., "Protection of Soffits"
6. Article 3.2.3.17., "Canopy Protection for Vertically Separated Openings"

These Articles were developed at different times to address specific hazards of fire growth and spread associated with exterior walls. The disparate and overlapping nature of these Articles significantly complicates their application to building design and construction.

Appendix B

NEW BUSINESS

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4. New Business

Action Requested: Decision Guidance Information

Summary

This agenda item lists different subjects brought to the attention of the NMCC-FLS for the first time for review, discussion and decision.

First, members of the NMCC-FLS will receive information describing their role in the harmonized code development system, how to submit their travel expenses claim to NRC for reimbursement and how to navigate through Teamwork (the web application).

Then, a review of the terms of reference (ToR) of the NMCC-FLS will guide the discussion and decision of the committee on the ToR for each task currently listed within its mandate.

Following, the NMCC-FLS will review the possible committee action (PCA) populated on the comments received from the public on the proposed changes (PCF 1872) revising the minimum requirements for and exceptions to the encapsulation of mass timber elements. The PCF was sent back to public review following the required revisions while addressing the comments received from the previous public review.

The goal is to agree on committee action (CA) and recommend an action to the CBHCC

.

Then, the NMCC-FLS should reflect on the need (or not) to prioritize the work on the assigned tasks based on the short window of development for proposed changes.

Finally, the NMCC-FLS should review the application of Sentences 3.2.4.1.(5) and 9.10.18.2.(5) of Division B of the NBC (2020) exempting residential occupancies from the installation of a fire alarm systems where an exit or public corridor serves not more than 4 suites (or share a common means of egress).

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4.1. Orientation on the HCDS

Action Requested: Decision Guidance Information

Summary

The harmonized code development system officially started on November 22, 2022 when the new governing bodies overseeing the development of the National Model Codes took ownership of the associated system and its processes and procedures.

Since then, the Canadian Table for Harmonized Construction Codes Policy (CTHCCP), the CBHCC and the Advisory Council for Harmonized Construction Codes have established the strategic priorities and identified the tasks that the development committees will work on during the 2025–2030 code cycle.


In this Agenda Package

1. *Orientation session*

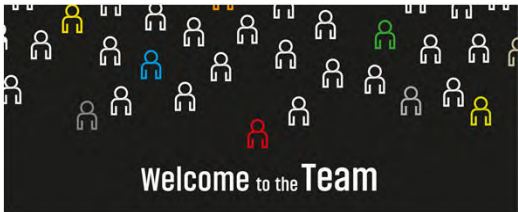
National Model Codes Committee Orientation Session

NMCC on Fire and Life Safety


3 March 2025



1


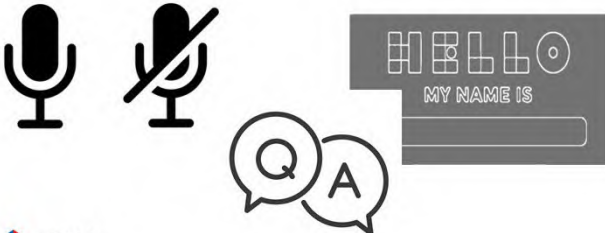


Welcome to the Team



2

Before we start



3

Outline

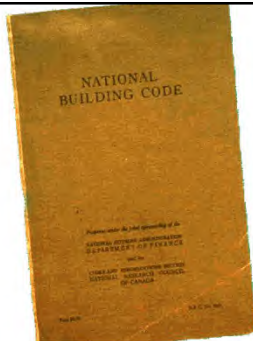
- What are the National Model Codes?
- What is the code development system?
- How to participate?



What are the National Model Codes?



A bit of history



National Model Codes

- Become regulation when adopted by a jurisdiction
- Establish minimum acceptable requirements
- Developed for use as a regulatory instrument
- Not a design manual
- Not a guide of best practices



Partnership and collaboration

- ~ 85 years
 - Provinces and territories (PTs)
 - NRC (federal)
 - Volunteers
- Open model codes development
- Regulatory impact analysis
- Research and evidence-based codes
- Administrative support by Codes Canada
- Consensus-based decision making
- Bilingual documents



Library of codes publication

50+ codes published since 1941

Latest editions

- National Building Code 2020
- National Fire Code 2020
- National Plumbing Code 2020
- National Energy Code for Buildings 2020

Guides, supplements and commentaries

- Structural Commentaries (User's Guide: Part 4) 2015
- Illustrated User's Guide-Part 9 Housing and Small Buildings 2020
- User's Guide-National Energy Code of Canada for Buildings 2020





Free downloadable

Electronic copies

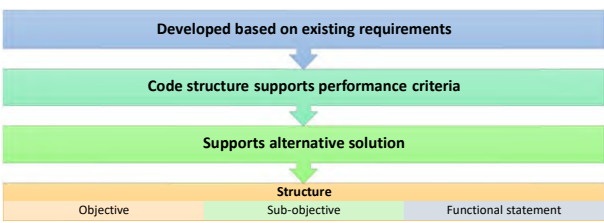
- current edition
- historical editions
- provincial codes published by NRC

Paper copies also available (\$)

10

Objective-based format




Developed based on existing requirements

Code structure supports performance criteria

Supports alternative solution

Structure


Objective Sub-objective Functional statement



11

What is an objective?

- Describe the fundamental goal a requirement is trying to achieve
- Only requirements have an objective
- Requirements can be linked to multiple objectives
- Set list of objectives
 - Safety
 - Health
 - Accessibility
 - Fire and structural protection of buildings
 - Environment




12

Nature of the objectives

OS Safety
An objective of this Code is to limit the probability that, as a result of the design, construction or demolition of the building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury.

OS1 Fire Safety
An objective of this Code is to limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by—


- OS1.1 – fire or explosion occurring
- OS1.2 – fire or explosion impacting areas beyond its point of origin
- OS1.3 – collapse of physical elements due to a fire or explosion
- OS1.4 – fire safety systems failing to function as expected
- OS1.5 – persons being delayed in or impeded from moving to a safe place during a fire emergency



13

What is a functional statement?

- More detailed than objectives
- May be several functional statements related to any one objective
- May describe a function of the building that serves to achieve more than one objective



14


Nature of functional statements

3.2.1. Functional Statements

3.2.1.1. Functional Statements

1) The objectives of this Code are achieved by measures, such as those described in the acceptable solutions in Division B, that are intended to allow the building or its elements to perform the following functions (see Note A-3.2.1.1.(1)):

- F01** To minimize the risk of accidental ignition.
- F02** To limit the severity and effects of fire or explosions.
- F03** To retard the effects of fire on areas beyond its point of origin.



15

What is an intent statement?

- Explain the intent behind a requirement
- Unique to a provision
- Offer insight views on what the provisions are intended to achieve



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Nature of intent statements

3.2.7.2. Ignition Sources

1) Heating appliances shall not be permitted in a fire compartment used for the storage of dangerous goods classified as flammable gases, flammable liquids, flammable solids, pyrophoric materials, water-reactive substances, oxidizers or organic peroxides, unless they are installed in a manner that will not create a fire or explosion hazard.

OS1
Objective OS1 Fire Safety
Attribution [F01-OS1.1]

Intent
Intent 1:

To limit the probability that dangerous goods will be ignited by heating appliances, which could lead to a fire or explosion, which could lead to harm to persons.



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Code requirements: prescriptive vs. performance

• Prescriptive

3.1.8.15. Door Latches

1) Except as permitted by Article 3.3.3.5., a swing-type door in a fire separation shall be equipped with a positive latching mechanism designed to hold the door in the closed position after each use.

• Performance

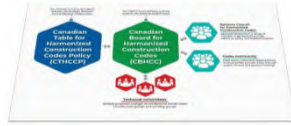
3.2.6.2. Limits to Smoke Movement

2) A building referred to in Sentence (1) shall be designed so that, during a period of 2 h after the start of a fire, each exit stair serving storeys below the lowest exit level will not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in accordance with Subsection 1.1.3. (See Note A-3.2.6.2.(2).)



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What is the harmonized code development system?



19

Construction responsibilities by level of government

Federal

- Publishes the National Model Codes
- Convenes stakeholders from across Canada to serve on development committees
- Supports review of construction products and materials
- Supports training

Provincial and territorial

- Have jurisdiction over regulating construction
- Discretion to adopt and modify National Model Codes based on their unique regional geography, climate and context

Municipal

- Responsible for enforcing provincial (or territorial) construction codes
- Reviews and issues building permits
- Performs inspections
- May set bylaws in addition to the provincial code

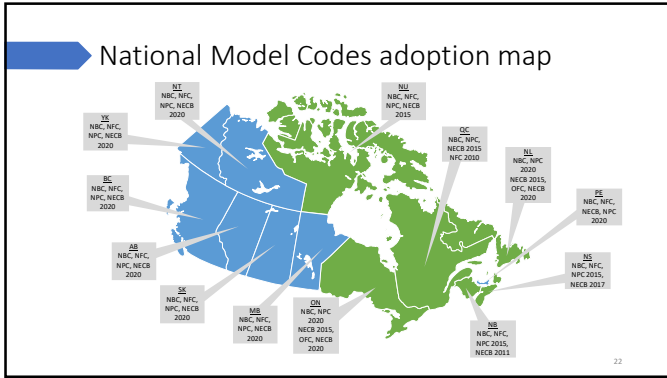


20

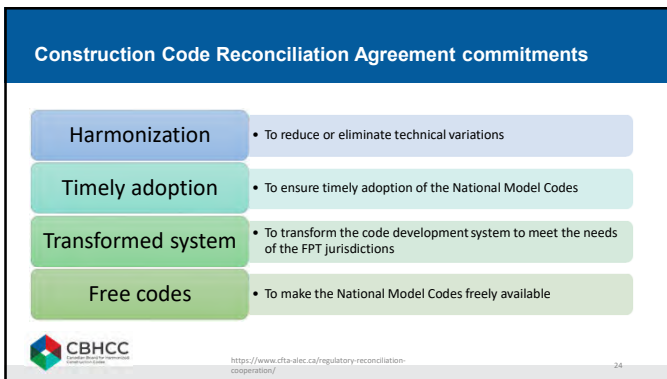
Codes edition currently in effect

Jurisdiction	Building (NBC)	Fire (NFCA)	Plumbing (NFC)	Energy (NECB)
Yukon	2020 edition ⁽¹⁾	2020 edition ⁽¹⁾	2020 edition ⁽¹⁾	2020 edition ⁽¹⁾
Northwest Territories	2015 edition ⁽²⁾	2015 edition ⁽²⁾	Not adopted	Not adopted
Nunavut	2015 edition ⁽²⁾	2015 edition ⁽²⁾	2015 edition ⁽²⁾	2015 edition ⁽²⁾
British Columbia	2020 edition ⁽³⁾ Effective March 8, 2024*	2020 edition ⁽³⁾ Effective March 8, 2024	2020 edition ⁽³⁾ Effective March 8, 2024	2020 edition ⁽³⁾ Effective March 8, 2024
Alberta	2020 edition ⁽⁴⁾ – Tier 1 Effective May 27, 2024	2020 edition ⁽⁴⁾ Effective May 27, 2024	2020 edition ⁽⁴⁾ Effective April 27, 2023	2020 edition ⁽⁴⁾ – Tier 1 Effective May 27, 2024
Saskatchewan	2020 edition ⁽⁵⁾ Tier 2 Effective January 27, 2024 Tier 3 Effective January 27, 2025	2020 edition ⁽⁵⁾	2020 edition ⁽⁵⁾	2020 edition ⁽⁵⁾ – Tier 1
Manitoba	2020 edition ⁽⁶⁾ – Tier 1 Effective January 2, 2024	2020 edition ⁽⁶⁾ Effective January 1, 2024	2020 edition ⁽⁶⁾ Effective January 1, 2024	2020 edition ⁽⁶⁾ – Tier 1 Effective January 2, 2024
Ontario	2015 edition ⁽⁷⁾	Unique to Ontario ⁽⁸⁾	2015 edition ⁽⁷⁾	2015 edition ⁽⁷⁾
Quebec	2015 edition ⁽⁹⁾	2010 edition ⁽⁹⁾	2020 edition ⁽⁹⁾ Effective July 11, 2024	2020 edition ⁽⁹⁾ Effective July 11, 2024
New Brunswick	2015 edition ⁽¹⁰⁾	2015 edition ⁽¹⁰⁾	2015 edition ⁽¹⁰⁾	2011 edition ⁽¹⁰⁾
Prince Edward Island	2020 edition ⁽¹¹⁾ – Tier 1 Effective March 31, 2024	2020 edition ⁽¹¹⁾ Effective March 31, 2024	2020 edition ⁽¹¹⁾ Effective March 31, 2024	2020 edition ⁽¹¹⁾ – Tier 1 Effective March 31, 2024
New Scotia	2015 edition ⁽¹²⁾	2015 edition ⁽¹²⁾	2015 edition ⁽¹²⁾	2017 edition ⁽¹²⁾
Newfoundland and Labrador	2020 edition ⁽¹³⁾	2020 edition ⁽¹³⁾	Varies by municipality ⁽¹⁴⁾	Adoption of the 2020 edition is under review

21

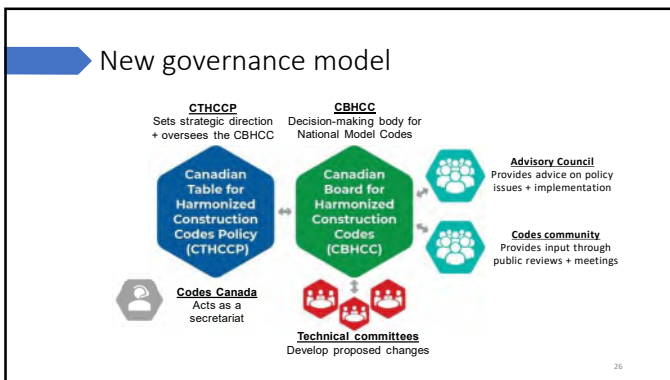






Harmonization of codes → one set of rules throughout Canada

CBHCC



Harmonized code development system


Operating procedures

Overview

Development committees

Harmonized code development process

Process review request



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Harmonized code development system


Development committees



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Agile

<ul style="list-style-type: none"> • National Model Codes Committees (NMCCs) • Minor task working groups • Policy working groups 	<ul style="list-style-type: none"> ➤ Address specific mandates ➤ Discontinued <ul style="list-style-type: none"> • Complete mandate • directed by CBHCC
<ul style="list-style-type: none"> • Standing Codes Coordination Committee (SCCC) 	<ul style="list-style-type: none"> ➤ Some NMCCs may last several code cycles



30

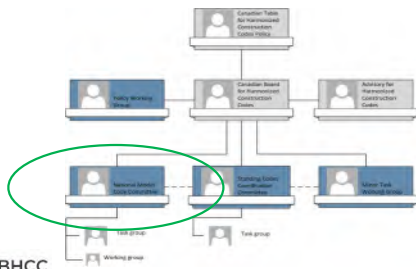
Suite of principles

- Flexible
 - Number, composition, size and duration of each committee carefully tailored to align with specific scope and mandate
- Coordinated
 - Membership of committees with relevant representation and a holistic view of issues
- Efficient
 - Focused use of system resources supporting strategic priorities



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Development committees structure



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SCCC

- Membership of non-FPT representatives and chairs of the NMCCs
- Not an executive level committee
- Does not approve proposed changes



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Task and working groups

- Chairmanship
- Membership
- Association stakeholders

34

Others

- Minor task working groups
- Policy working groups
- CBHCC (Codes Board)


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Codes R&D
NRC research

36

What codes R&D do?

- Reduce barriers to internal trade
- Harmonize building code regulation across the country
- Provide evidence to a NMCC trade
- Helps reduce variations and increase adoption
- Alignment with CBHCC priorities



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Example of codes R&D projects

Project	Purpose	Focus
Grab bar load for safety & accessibility	Supports external collaborative research funded by the Aging in Place Challenge Program. Informs technical requirements for reinforcing washroom walls for future installation of grab bars. Provides data on the characteristic loads on a grab bar during sit to stand transfers.	Supporting the TG-Accessibility
Radon passive stacks	Seeks to understand the performance of passive radon stacks for different geological conditions, climate and housing stocks across Canada, in support of addressing four code change requests.	Supporting the TG-Radon & Soil Gas Mitigation
Prevention of overheating in buildings	Supports development of code changes on reducing overheating risk in buildings. Supports the development of the impact analysis and public review responses. Set up an upper limit of indoor temperature to protect occupants' health. Informs an evidence-based upper limit temperature with humidity effect included to account for: <ul style="list-style-type: none"> • The health and safety of occupants, particularly those vulnerable to heat, and • The interactive effect of indoor humidity at low temperatures (< 30 °C). 	Supporting TG-Indoor Overheating
Fire performance of houses	Addresses the impact of innovative engineered structural floor joists (such as wood I-joists, steel C-joists, metal plate and metal web wood trusses) on the fire performance of single family houses.	Supporting the JTG-Fire Performance of Floor Assemblies in House

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NMCC

Roles and responsibilities

39

General


- Struck by the CBHCC → approved work plan
- Develop recommendations on technical subjects
- Report back to the CBHCC
- Conduct business in open meetings
 - Virtual
 - In person
- Members must adhere to the Harmonized Code Development System Operating Procedures



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List of NMCCs → code cycle 2025–2030

1. Accessibility (ACCESS)	7. Harmonization (HMRZN)
2. Alteration to existing buildings (AEB)	8. Housing supply (HS)
3. Climate change adaptation (CAA)	9. Indoor environment (IndE)
4. Climate change mitigation (Miti)	10. Performance-based solutions (PBS)
5. Climatic data (CD)	11. Referenced documents (RedDocs)
6. Fire and life safety (FLS)	12. Seismic design (Seismic)



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Your appointment


- Knowledge of the matters considered by the development committee
- Capacity to contribute to the committee's work
- Ability to represent a broad interest category, not a specific organization



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Member categories



Consensus members	Non-consensus members	Other participants
<ul style="list-style-type: none">• Chair• Members• FPT members• Codes Canada Technical Advisors (TAs)	<ul style="list-style-type: none">• Association stakeholders• NRC Researchers	<ul style="list-style-type: none">• Observers



43

Chair's role



- Sets meeting agendas
- Ensures adherence to the terms of reference (ToR)
- Leads the discussion building consensus
- Assesses consensus
- Enforces the code of conduct



44

Members



- Bring relevant knowledge
- Selected from 3 broad sectors
 - Regulatory
 - Industry
 - General interest
- Responsible for advising employment status changes



45

FPT representatives


- Selected by the CBHCC
- Provide technical expertise
- Provide viewpoint of their jurisdictions

46

Association stakeholders


- Selected by the CBHCC
- **Can participate** as member
 - Bring technical knowledge
- **Not part** of decisions on recommendations to the CBHCC
 - Avoid undue influence



47

Codes Canada TAs

- Coordinate the work
- Provide administrative support
- Support the chair applying the operating procedures
- Support the chair building consensus
- Provide technical input on the development of codes
- Identify opportunities for harmonization



48

NRC Researchers

- Ex-officio member
- Bring technical expertise
- Coordinate research in support of code development
- **Not part** of decisions on recommendations to the CBHCC



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Observers

- Observe proceedings
- Through the chair → participate in the discussion
- **Not part** of decisions on recommendations to the CBHCC



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Expectations


- Respond promptly to availability polls
- Attend meetings
- Contribute to a quality analysis
- Work within the mandate
- Maintain the confidentiality of information
- Follow consensus-based decision-making
- Participate on TGs/WGs



51

Code of conduct



- Act with respect towards all contributors in the code development system
- Follow the principles of consensus-building
- All participants must declare any known real, apparent or potential conflicts of interest



52

Attendance at meeting

- Quorum → ≥ 50% of the members
- Review agenda in advance
- Conduct open discussions
 - Give full and fair consideration to all opinions
 - Base point of view on sound technical and scientific basis
 - Take positions in the interest of all Canadians and the National Model Codes
- Don't record the meeting
- NMCC meetings are conducted in English only (including agenda packages)

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Two types of meeting

In person

- Usually 2- to 3-day meeting → NMCC + TG
- Travel expenses are reimbursed

Teleconferences

- Most of the meetings are virtual (nowadays!) → NMCC + TG+ WG
- Virtual meetings should last between 2–3 hours



54

Open vs. in camera meetings

Open


NMCCs

Task groups

SCCC

In camera

Working groups




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Stay involved!

- Learn about upcoming events and meetings
- Submit a code change request (CCR) → future work planning
- Comment on proposed changes during public reviews
- Attend public meetings → NMCCs + TGs + CBHCC


www.CBHCC-CCHCC.ca



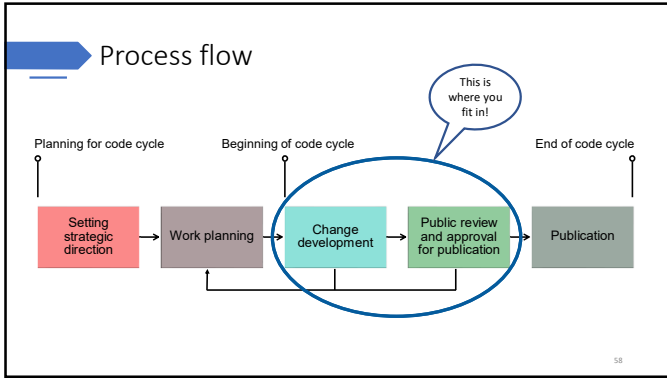
56

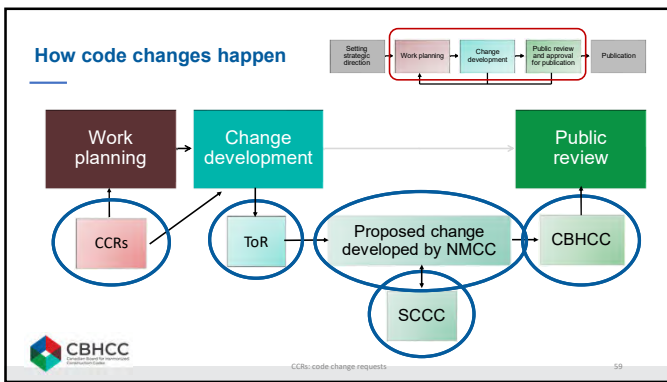
Harmonized code development system

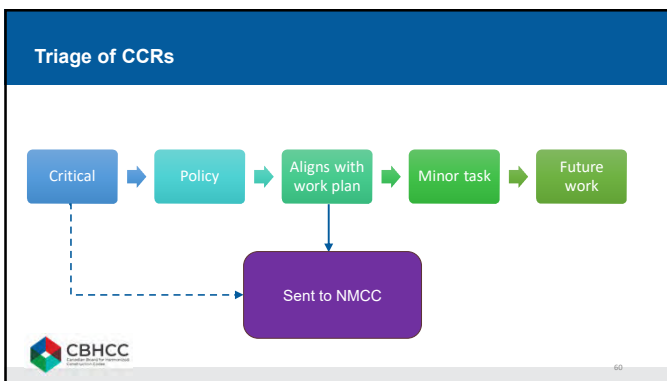
Processes



57







Terms of reference

- Work plan informs the development of NMCC ToR
- The ToR cannot be changed by the NMCC

The diagram shows a horizontal flow from left to right. It starts with a blue box labeled 'Work plan', followed by a teal box labeled 'Terms of reference', and finally a green box labeled 'NMCC'. A large, light blue arrow points from the 'Work plan' box towards the 'NMCC' box, encompassing the 'Terms of reference' box in the middle.

CBHCC
61

Proposed changes

- Developed by NMCCs
- Include consideration
 - Direction from the CBHCC
 - Issue(s) addressed
 - Supporting evidence
 - Potential impacts
 - Enforcement implications

The diagram is a funnel shape. At the top, there are three circles: a grey one labeled 'Mandate', a yellow one labeled 'CCRs', and an orange one labeled 'Research'. Arrows from these three circles point downwards into the funnel. At the bottom of the funnel, an arrow points down to the text 'Proposed change'.

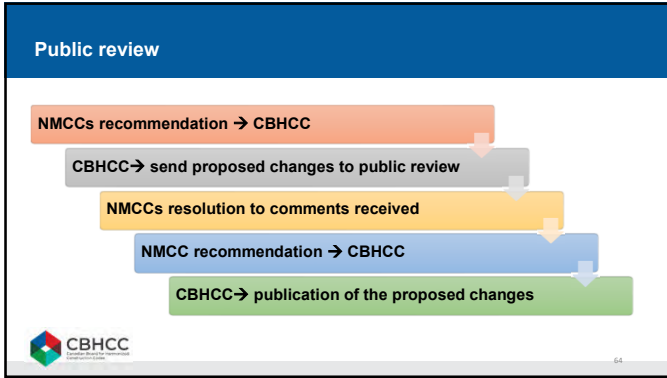
CBHCC
62

Coordination process

- SCCC functions as a hub
- Meets regularly so NMCC chairs can
 - Update each other on progress
 - Address coordination issues
 - Identify potential unintended consequences

The diagram shows a central blue circle labeled 'SCCC'. Surrounding it are four other circles: a red one at the top labeled 'NMCC(1)', a grey one on the right labeled 'NMCC(2)', a yellow one at the bottom labeled 'NMCC(3)', and a blue one on the left labeled 'NMCC(4)'. Double-headed arrows connect the central 'SCCC' circle to each of the four surrounding 'NMCC' circles.

CBHCC
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Process review request

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Process review request

- Acceptability
 - Review recommendations to publish code changes
 - Code development process not followed
- Decisions of the CTHCCP and the CBHCC are not subject to review

CBHCC


66


 **NMCC**
General logistics

67

Travel and meeting planning

- Respond to availability polls promptly
- Travel subject to → Treasury Board Travel Directive
 - Flights → Reserved Seat
 - Train → VIA Business Class
 - Private/rental vehicle < 500 km (round trip)
 - Seek prior approval




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Final notice

- Travelling to or from a different destination than indicated on your non-staff travel authority form (NSTAA)
 - Seek prior approval

IMPORTANT

- make travel arrangements **AFTER** receiving the **Final Notice**
 - NRC.CONST-Events-Coordination-Coordination-devenement.CNRC@nrc-cnrc.gc.ca

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Permissible travel expenses

Voting members

- Per diem for meals
- Car rental—by request only
- Flight reimbursement
 - Could submit flight reimbursement prior to the meeting
- No remuneration for time spent at meeting

Non-voting members


- No reimbursement for travel expenses
 - Free lunches and refreshments provided

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Travel claim form


- Within 10 days after the meeting
- If you do not claim expenses
 - Advise by email: NRC.Const-events-coordination-coordination-devenement.Cnrc@nrc-cnrc.Gc.Ca
- Must submit receipts for all expenses
 - Flight or train, hotel, parking, taxi
 - Exception → meals and expenses under \$10 such as bus fare



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Meeting communication

- Meetings are open to the public
- Audio or visual recording of meetings is prohibited
- All participants must follow the code of conduct
- Committees conduct business in English




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External communication

Contact us

General enquiries
 The Secretary, Canadian Board for Harmonized Construction Codes
 Email: CBHCCSecretary.SecretaireCBHCC@nrc-cnrc.gc.ca
 Telephone: 1-613-993-9960
 Mail: The Secretary, Canadian Board for Harmonized Construction Codes
 1200 Montreal Road, building M-20
 Ottawa, ON K1A 0R6


Media enquiries
 Email: cbhcc-cbhcc@strategycorp.com
 Telephone: 1-613-703-5375
 Mail: Strategy Corp.
 100 Queen Street, Suite 850
 Ottawa, ON K1P 1J9
strategycorp.com



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Public information

- Part of public record
 - Decisions
 - Alternative courses of action
- Members approve minutes
- Agenda package are part of meeting minutes



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Questions?



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Appendix C

NMCC ToR

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4.2. Terms of reference for NMCC on FLS

Action Requested: Decision Guidance Information

Summary

The NMCC-FLS review the ToR defining its mandate and the scope of the assigned tasks. The ToR are approved by the CBHCC. Any revisions should therefore request their approval prior to become effectives.

In this Agenda Package

1. *ToR of the NMCC-FLS*

Terms of Reference for National Model Code Committee on Fire and Life Safety

Mandate

The National Model Code Committee (NMCC) on Fire and Life Safety will develop proposed code changes to address fire and life safety risks in the National Model Codes (NMCs) as described below and in accordance with Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan in order to safeguard buildings, occupants and firefighters when performing their duties.

Note: the breakdown of mandates shown below do not necessarily reflect the recommended task groups and working groups being planned.

Additional considerations for energy retrofits in existing Part 9 buildings

- Address barriers to improving thermal resistance due to fire risks raised during the development of energy efficiency proposed changes in the 2020–2025 code cycle:
 - Addition of exterior insulation and limiting distance,
 - Use of spray foam to increase thermal resistance of assemblies.

Encapsulated mass timber construction (EMTC)

- Review technical changes developed by provinces and territories for inclusion in the National Model Codes.

Energy storage system (ESS) and EV charging

- Develop technical requirements to address the potential fire and health safety hazards associated with installation and maintenance of ESS and EV charging stations for new and existing buildings. In developing requirements, consider coordination with the Canadian Electrical Code (CEC).

Fire performance of floor assemblies in houses [Pending direction from the CBHCC]

- Develop technical requirements for the acceptable level of performance for a floor assembly in a house exposed to fire.

Review of attribution and intent statements related to firefighter safety

- Upon reviewing the outcome of the research project that evaluates existing requirements, attribution and intent statements of the NBC and NFC with regards to firefighter safety when performing their duties, and subject to CBHCC approval of a new firefighter safety sub-objective
 - Align attributions and intent statements of current code requirements of NBC and NFC for consistency, where applicable,
 - Attribute current requirements to the new OS6 sub-objectives and functional statements, and recommend changes to intent statements where necessary.

Hazardous processes

- Develop code changes regarding the classification, storage, handling, use and processing of dangerous goods, flammable and combustible liquids,
- Address risks to safety, health and property associated with hazardous processes and operations:
 - hot works (including roofing operations),
 - chemical waste and recycling (i.e. equipment standards, storage, inspections, etc.).

Fire resistance ratings

- Construction and fire rating of the exterior wall assembly in Table 9.10.3.1.-A.

Single Egress

- Consider code changes related to single egress in residential occupancies as well as their application limitations.

Multi-unit residential buildings 3-8 dwelling unit houses

- Consider the required fire and life safety requirements for small 3-8 unit multi-unit residential buildings (MURB) in Part 9 of the NBC and develop requirements where appropriate.

The NMCC is established by, and reports to, the CBHCC. The NMCC exists until the completion of its mandate or as otherwise directed by the CBHCC.

The NMCC will comply with the Harmonized Code Development Policies and Procedures.

Responsibilities

In accordance with the mandate described above:

- develop proposed code changes for consideration for public review by the CBHCC;
 - In developing proposed code changes consider:
 - harmonize with Provincial/Territorial variations where possible, if multiple Provincial/Territorial variations exist seek direction from the CBHCC;
 - code change requests forwarded by the CBHCC;
 - new and existing standards and guidelines, and
 - implications on other code requirements;
 - In developing proposed code changes identify:
 - impacts of the proposed code changes; and
 - enforcement implications of the proposed code changes;
- in consideration of public review comments received, recommend code changes for publication, for consideration by the CBHCC;
- identify where research is needed to support the mandate and support coordination efforts;
- identify opportunities for coordination with standard development and support coordination;
- develop material on proposed changes for the relevant User's Guides and Commentaries, where applicable;
- prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and

- through the Chair:
 - monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
 - participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
Peter Senez (Chair)	Fire Protection Engineering	SenezCo	BC	Industry
Randy Richard	Building Official	City of Moncton	NB	Regulator
Richard Cummings	Fire Official	Town of Oromocto	NB	Regulator
Brian McBain	Fire Official	Russell Township Fire Services	Ontario	Regulator
Ulrik Seward	Building Official	City of Calgary	Alberta	Regulator
Jithin Jyothi Kurien	Fire Protection Engineering	PLC Fire Safety Engineering	Ontario	Industry
Dominic Esposito	Fire Protection Engineering	Jensen Hughes	Ontario	Industry
Erin McClintock	Building Code Compliance	LMDG Building Code Consultants Ltd.	Ontario	Industry
Dylan Dufort	Fire Code Compliance	Fire Plan Strategies Inc.	Manitoba	Industry
Azadeh Rafiee Tabatabaee	Electrical Designer		BC	Industry
Kevin To	Building Code Compliance	GHL Consultants Ltd.	BC	Industry
Sama Abri	Building Design	First Nations Authority	BC	Industry
Reem Marie	Building Design	Architect AIBC	BC	Industry
Rabih Al Aridi	Fire and Security Systems	Johnson Controls	Quebec	Industry
Halina Roussy	Building Operation		Quebec	General Interest
Tony Crimi	Standards, Testing and Conformity Assessment	A.C. Consulting Solutions Inc.	Ontario	General Interest
Tess Espejo	Standards Development	ULC Inc.	National	General Interest
Michel Gagné	Dangerous Goods		Quebec	General Interest
Anja Slusarzick-Seibt	Building Design	AIBC	BC	General Interest
TBD		NRC		Ex officio

Appendix D

TASKS ToR

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4.3. Terms of reference for tasks

Action Requested: Decision Guidance Information

Summary

The NMCC-FLS review the ToR defining the mandate and scope of six of the assigned tasks. The following issues apply to the remaining three tasks:

- Fire performance of floor assemblies in houses (FPFAH) → pending policy direction
- Review of attribution and intent statements related to firefighter safety (FFSafety) → work contracted to a consultant
- Multi-unit residential buildings (3–8 dwellings) → pending clarification of the mandate

The ToRs propose a phase approach when it is believed the scope could be expanded to deal with issues raised from requests for change (CCRs), when research testing is underway or when potential problems were identified and fall outside the current scope.

Any expansion of scope of any of the tasks assigned to the NMCC-FLS result in an expansion of its mandate. As such, the CBHCC will need to review the ToR of the NMCC-FLS prior to proceed with any action.

In this Agenda Package

1. *ToRs for the following six tasks:*

- 1) *Additional considerations for energy retrofits in existing Part 9 buildings (ERetroPart9)*
- 2) *Encapsulated mass timber construction (EMTC)*
- 3) *Energy storage system and EV charging (ESS/EV)*
- 4) *Hazardous processes (HAZ)*
- 5) *Fire-resistance ratings for exterior wall assembly in Table 9.10.3.1.-A. (FRR)*
- 6) *Single egress (SEC)*

Desired Outcome

Review and approve the ToRs for the assigned six tasks.

Terms of Reference for Task Group on Additional Considerations for Energy Retrofits in Existing Part 9 Buildings (ERetroPart9)

Mandate

The Task Group on Additional Considerations for Energy Retrofits in Existing Part 9 Buildings (ERetroPart9) will address barriers to improving thermal resistance due to fire risks raised during the development of energy efficiency proposed changes in the 2020–2025 code cycle with the:

- addition of exterior insulation and limiting distance, and
- use of spray foam to increase thermal resistance of assemblies

in accordance with the National Model Code Committee on Fire and Life Safety (NMCC-FLS) mandate and the Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan.

The TG-ERetroPart9 will:

- Review
 - The proposed changes (PCFs) introduced into the 2025 edition of the National Model Codes for Part 9 buildings, mainly the:
 - addition of exterior insulation and limiting distance, and
 - use of spray foam to increase thermal resistance of assemblies; and
 - Potential addition to current requirements from the lens of energy retrofit; and
 - Identify areas where additional modeling research may be needed.

The TG-ERetroPart9 is established by, and reports to, the NMCC-FLS. The Task Group exists until the completion of its mandate or as otherwise directed by the NMCC.

The Task Group will comply with the Harmonized Code Development Policies and Procedures.

Responsibilities

In accordance with the mandate described above:

1. Develop proposed code changes for consideration for public review by the CBHCC;
 - a. In developing proposed code changes consider:
 - i. code change requests (CCRs) identified in this term of reference (ToR) and forwarded by the CBHCC;
 - ii. similar requirements in provincial or territorial codes and opportunities for harmonization; and
 - iii. implications on other code requirements;

- b. In developing proposed code changes identify:
 - i. impacts of the proposed code changes; and
 - ii. enforcement implications of the proposed code changes;
- c. In consideration of public review comments received, recommend code changes for publication for consideration by the CBHCC;
- 2. Identify where research is needed to support the mandate;
- 3. Prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and
- 4. Through the NMCC-FLS chair:
 - a. monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
 - b. participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Appendices

PCFs 1829, 2032, 2033 and 2051

1. PCF 1829: Thermal Characteristics of Above-Ground Opaque Building Assemblies
NBC20-DivB-10.09.36.

This proposed change introduces requirements for the thermal characteristics of above-ground opaque building assemblies in existing buildings subjected to alteration.

2. PCF 2032: Heat Transfer, Air Leakage and Condensation Control Requirements
NBC20-DivB-10.09.

This proposed change introduces requirements for the continuity of air barrier systems in existing buildings subjected to alteration.

3. PCF 2033: Ventilation Systems in Existing Buildings Subjected to Alteration
NBC20-DivB-10.09.

This proposed change introduces requirements for ventilation systems in existing buildings subjected to alteration.

4. PCF 2051: Explanatory Note 10.9.1.1. for Continuity of the Air Barrier System
NBC20-DivB-10.09.

This proposed change introduces explanatory Note A-10.9.1.1. to clarify requirements for the continuity of air barrier systems that apply to the alteration of existing buildings.

Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
1. (Chair)				Choose an item from the drop down menu.
2.				Choose an item from the drop down menu.
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Terms of Reference for Task Group on Encapsulated Mass Timber Construction (EMTC)

Mandate

The Task Group on Encapsulated Mass Timber Construction (EMTC) will review technical changes developed by provinces and territories (PTs) for appropriateness of including in the National Model Codes in accordance with the National Model Code Committee on Fire and Life Safety (NMCC-FLS) mandate and the Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan.

- Phase I
 - Review technical changes developed by provinces and territories for appropriateness of including in the National Model Codes.
- *Phase II (expansion of scope)*
 - *Review emerging research and material standards for mass timber elements—such as cross-laminated timber (CLT)—to determine if/how they support expanding the application of EMTC.*
 - *Topics for consideration include but are not limited to:*
 - *Allowing higher buildings*
 - *Expanding major occupancies*
 - *Reducing the encapsulation requirements for lower buildings*
 - *Assessing further flexibility for encapsulation during construction*
 - *Reviewing applicable standards and timber design solutions in high seismic zones*
 - *Assessing transferability of the IBC 2024 requirements or any other international codes*
- *Phase III (expansion of scope)*
 - *For existing buildings, assess:*
 - *Maintenance needs, where applicable; and*
 - *Seismic retrofits in high seismic zone; and*
 - *Review case studies for modern tall wood buildings pursued in Canada and around the world.*

The TG-EMTC is established by, and reports to, the NMCC-FLS. The Task Group exists until the completion of its mandate or as otherwise directed by the NMCC.

The Task Group will comply with the Harmonized Code Development Policies and Procedures.

Responsibilities

In accordance with the mandate described above:

1. Develop proposed code changes for consideration for public review by the CBHCC;
 - a. In developing proposed code changes consider:
 - i. code change requests (CCRs) identified in this term of reference (ToR) and forwarded by the CBHCC;
 - ii. similar requirements in provincial or territorial codes and opportunities for harmonization; and
 - iii. implications on other code requirements;
 - b. In developing proposed code changes identify:
 - i. impacts of the proposed code changes; and
 - ii. enforcement implications of the proposed code changes;
 - c. In consideration of public review comments received, recommend code changes for publication for consideration by the CBHCC;
2. Identify where research is needed to support the mandate;
3. Prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and
4. Through the NMCC-FLS chair:
 - a. monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
 - b. participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Appendices

CCR 1829

Currently, there are 46 additional CCRs pending triage by the CBHCC in the database.

CCR 1829: Combustible Window Sashes and Frames in EMTC Construction

This request for change introduces a permission for combustible window sashes and frames in a EMTC building similar to building required to be noncombustible construction.

Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
1. Erin McClintock (Chair)	Fire protection engineering	LMDG Building Code Consultants Ltd.	Ontario	Industry
2. TBD		NRC Research	National	Ex officio
3.				Choose an item from the drop down menu.
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Terms of Reference for Working Group on Fire-Resistance Rating (FRR)

Mandate

The Working Group on Fire-Resistance Rating (FRR) will address the construction and fire rating of the exterior wall assembly in Table 9.10.3.1.-A. of Division B of the National Building Code (NBC) in accordance with the National Model Code Committee on Fire and Life Safety (NMCC-FLS) mandate and the Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan.

- Phase I
 - Review public review comments on PCF 1496;
 - Review applicable fire test results; and
 - Review formal TG and SC related discussion.
- Phase II (*expansion of scope*)
 - Review the applications of Table 9.10.3.1.-A:
 - Review CCR(s);
 - Review applicable fire test results; and
 - Review formal TG and SC related discussion.

The WG-FRR is established by, and reports to, the NMCC-FLS. The Working Group exists until the completion of its mandate or as otherwise directed by the NMCC.

The Working Group will comply with the Harmonized Code Development Policies and Procedures.

Responsibilities

In accordance with the mandate described above:

1. Develop proposed code changes for consideration for public review by the CBHCC;
 - a. In developing proposed code changes consider:
 - i. code change requests (CCRs) identified in this term of reference (ToR) and forwarded by the NMCC-FLS;
 - ii. similar requirements in provincial or territorial codes and opportunities for harmonization; and
 - iii. implications on other code requirements;
 - b. In developing proposed code changes identify:
 - i. impacts of the proposed code changes; and
 - ii. enforcement implications of the proposed code changes;
 - c. In consideration of public review comments received, recommend code changes for publication for consideration by the CBHCC;
2. Identify where research is needed to support the mandate;
3. Prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and
4. Through the NMCC-FLS chair:

- a. monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
- b. participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Appendices

CCR 1839

1. CCR 1839: Reference ASTM C840 “Standard Specification for Application and Finishing of Gypsum Board”

This request for change replaces the reference to the CSA A82.31, “Gypsum Board Application” standard with the ASTM/C840, “Standard Specification for Application and Finishing of Gypsum Board” the NBC.

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Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
1. Dominic Esposito (Chair)	Fire Protection Engineer	Jenson Hughes	Ontario	Industry
2.				Choose an item from the drop down menu.
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Terms of Reference for Task Group on Energy Storage System (ESS) and Electrical Vehicle (EV) Charging

Mandate

The Task Group on Energy Storage System (ESS) and Electrical Vehicle (EV) Charging (TG-ESS/EV) will address the potential fire and health safety hazards associated with installation and maintenance of ESS and the hazards associated with EV charging stations in different configuration in accordance with the National Model Code Committee on Fire and Life Safety (NMCC-FLS) mandate and the Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan.

Energy Storage System (ESS)

Develop technical requirements to address the potential fire and health safety hazards associated with installation and maintenance of ESS.

- Phase I
 - Review applicable standards (e.g. Canadian Electrical Code, U.S., International);
 - Review available research reports;
 - Assess the hazards of ESS as an ignition source, such as:
 - Lithium-ion batteries, hybrids and different technologies; and
 - Location and installation; and
 - Consider referencing relevant standards, where applicable.
- Phase II (*expansion of scope*)
 - Assess the hazards of ESS for:
 - *Installation and maintenance of ESS in a photovoltaic system (PV) and/or other renewable energy systems inside and/or outside buildings; and*
 - *Manufacturing and storage; and*
 - Consider referencing relevant standards, where applicable.

EV Charging

Develop technical requirements to address the potential fire and health safety hazards associated with EV charging

- Phase I
 - Assess hazards related to the installation and maintenance of EV charging stations:
 - Inside buildings,
 - Outside buildings, and
 - In storage garages (underground and aboveground);
 - Review applicable standards (e.g. Canadian Electrical Code, NFPA 855, NFPA 70, 70B and 70E, International);
 - Consider potential limitations on major occupancies; and

- Consider referencing relevant standards, where applicable.

The TG-ESS/EV is established by, and reports to, the NMCC-FLS. The Task Group exists until the completion of its mandate or as otherwise directed by the NMCC.

The Task Group will comply with the Harmonized Code Development Operating Procedures.

Responsibilities

In accordance with the mandate described above:

1. Develop proposed code changes for consideration for public review by the CBHCC;
 - a. In developing proposed code changes consider:
 - i. code change requests (CCRs) identified in this term of reference (ToR) and forwarded by the CBHCC;
 - ii. similar requirements in provincial or territorial codes and opportunities for harmonization; and
 - iii. implications on other code requirements;
 - b. In developing proposed code changes identify:
 - i. impacts of the proposed code changes; and
 - ii. enforcement implications of the proposed code changes;
 - c. In consideration of public review comments received, recommend code changes for publication for consideration by the CBHCC;
2. Identify where research is needed to support the mandate;
3. Prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and
4. Through the NMCC-FLS chair:
 - a. monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
 - b. participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Appendices

CCRs 1409, 1425, 1560, 1561, 1562, 2057 and 2167

1. [CCR 1409: Electrical Vehicle Charging Stations for Multi-unit Residential Buildings \(MURBs\)](#)
This code change request requires that all MURBs be provided with an energized outlet for all parking spaces, including car-share spaces, with the exception of visitor parking stalls, to charge EVs.

2. [CCR 1425: Electrical Vehicles Charging Stations in Dwellings Units](#)

This request for change adds EV charging infrastructure requirements into the NBC.

3. CCR 1560: Addition of Stationary Energy Storage System Requirements - Part 9 Electrical Facilities

This request for change introduces a new Subsection in Section 9.34. of Division B of the NBC for fire safety requirements of stationary ESS.

4. CCR 1561: Addition of Energy Storage System Requirements - Part 3 Storage Rooms

This request for change introduces a new Article in Subsection 3.2.3. of Division B of the NBC for storage rooms of stationary ESS.

5. CCR 1562: Expansion of the Application of Emergency Planning to Areas containing Energy Storage Systems

This request for change introduces a new Clause in Sentence 2.8.1.1.(1) of Division B of the NFC expanding the application for emergency planning to include areas containing stationary ESS.

6. CCR 2057: Add Requirements for Energy Storage Systems (ESS) in Dwelling Units

This request for change introduces requirements for the protection of ESS allowing battery-based ESS to be installed in the interior of buildings and within dwelling units.

7. CCR 2167: Electric Vehicle (EV) Fire Safety Concerns for Parking Garages

This request for change introduces mandatory fire safety requirements for electric vehicles in parking garages.

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Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
1. Tony Crimi (Chair)	Fire protection engineering	A.C. Consulting Solutions Inc.	Ontario	Industry
2. Cecilia Liam	Fire protection engineering	NRC Research	National	Ex officio
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Terms of Reference for Task Group on Hazardous Processes (HAZ)

Mandate

The Task Group on Hazardous Processes (HAZ) will develop code changes regarding the classification, storage, handling, use and processing of dangerous goods, flammable and combustible liquids, and address risks to safety, health and property associated with hazardous processes and operations for:

- a. hot works (including roofing operations), and
- b. chemical waste and recycling (i.e. equipment standards, storage, inspections, etc.)

in accordance with the National Model Code Committee on Fire and Life Safety (NMCC-FLS) mandate and the Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan.

- Phase I
 - Review the classification (harmonization of GHS with TDG, WHMIS and the NFC), storage, handling, use and processing of dangerous goods, flammable and combustible liquids including water-miscible flammable liquids.
- Phase II
- Assess the risks for people health and safety, and the fire protection of buildings from
 - hot work (roofing operations); and
 - chemical waste and recycling operations.
- *Phase III (expansion of scope)*
 - *Assess the risks for the use and storage of consumer products using lithium-ion batteries; and*
 - *Set a threshold for small distilleries operated in restaurant.*

The TG-HAZ is established by, and reports to, the NMCC-FLS. The Task Group exists until the completion of its mandate or as otherwise directed by the NMCC.

The Task Group will comply with the Harmonized Code Development Policies and Procedures.

Responsibilities

In accordance with the mandate described above:

1. Develop proposed code changes for consideration for public review by the CBHCC;
 - a. In developing proposed code changes consider:
 - i. code change requests (CCRs) identified in this term of reference (ToR) and forwarded by the CBHCC;
 - ii. similar requirements in provincial or territorial codes and opportunities for harmonization; and
 - iii. implications on other code requirements;
 - b. In developing proposed code changes identify:
 - i. impacts of the proposed code changes; and

- ii. enforcement implications of the proposed code changes;
 - c. In consideration of public review comments received, recommend code changes for publication for consideration by the CBHCC;
- 2. Identify where research is needed to support the mandate;
- 3. Prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and
- 4. Through the NMCC-FLS chair:
 - a. monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
 - b. participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Appendices

Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
1. (Chair)				Choose an item from the drop down menu.
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Terms of Reference for Task Group on Single Egress (SE)

Mandate

The Working Group on Single Egress (SC) will address address code changes related to single egress in residential occupancies as well as their application limitations in accordance with the National Model Code Committee on Fire and Life Safety (NMCC-FLS) mandate and the Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan.

The TG will:

1. Review research reports;
2. Review international codes and standards;
3. Assess the performance of a single egress building construction related to (not limited to);
 - a. Elevator for evacuation and accessibility,
 - b. Compartmentalization,
 - c. Smoke management,
 - d. Automatic sprinklers,
 - e. Mean of egress particularly for occupants with disabilities,
 - f. Mixed occupancy: C, D, F3, and
4. Maximum building height of 6 storeys; and
5. Sponsor research projects, where needed.

The TG-SE is established by, and reports to, the NMCC-FLS. The Task Group exists until the completion of its mandate or as otherwise directed by the NMCC.

The Task Group will comply with the Harmonized Code Development Policies and Procedures.

Responsibilities

In accordance with the mandate described above:

1. Develop proposed code changes for consideration for public review by the CBHCC;
 - a. In developing proposed code changes consider:
 - i. code change requests (CCRs) identified in this term of reference (ToR) and forwarded by the NMCC-FLS;
 - ii. similar requirements in provincial or territorial codes and opportunities for harmonization; and
 - iii. implications on other code requirements;
 - b. In developing proposed code changes identify:
 - i. impacts of the proposed code changes; and
 - ii. enforcement implications of the proposed code changes;
 - c. In consideration of public review comments received, recommend code changes for publication for consideration by the CBHCC;

2. Identify where research is needed to support the mandate;
3. Prepare a final report outlining a brief summary of the deliberations and considerations that led to the recommendation including any outstanding unresolved issues or concerns; and
4. Through the NMCC-FLS chair:
 - a. monitor progress against the approved CBHCC work plan and provide regular progress updates to the CBHCC; and
 - b. participate on the Standing Coordination Committee for Construction Codes, to ensure that there are no overlaps with, or conflicts between, the work being developed and that of other committees.

Appendices

CCRs 1815, 1816, 2094

1. CCR 1815: Allow single egress for multi-unit residential buildings (Part 9) up to 3 storeys
This request for change advocates that single egress be permitted in Part 9 for Group C occupancy if certain conditions are met to provide additional life safety measures.

2. CCR 1816: Allow single egress for multi-unit residential buildings up to 6 storeys in Part 3
This request for change advocates that single egress be permitted in Part 3 buildings up to six-storey high for Group C occupancy if certain conditions are met to provide additional life safety measures.

3. CCR 2094: Clarifying the requirement for egress windows or doors for Part 9 buildings

This request for change harmonizes the requirements between a Part 3 and 9 multi-unit residential buildings when the building is not sprinklered for the provision of egress windows in the bedrooms of the suites.

Membership

Name	Related Area of Knowledge	Affiliation	Geographic Representation	Membership Category
Ulrik Seward (Chair)	Fire protection Use and egress Housing and small buildings	Chief Building Official and Manager, Building Safety Approvals City of Calgary	Alberta	Regulator
Brian McBain	Fire safety	Provincial Fire Chief	Ontario	Regulator
Denessa Pollock	Fire protection Use and egress	Building inspector at the City of Saint John	New Brunswick	Regulator
Amar Khif	Regulatory and Policy	Engineer, Regulatory and Consulting Expertise Department Régie du bâtiment du Québec (RBQ)	Quebec	FPT
Kevin Harding	Regulatory and Policy	Director, Innovation and Safety The Ministry of Housing	British Columbia	FPT
Wayne Rodger	Fire safety & Firefighting	Provincial Fire Marshal	Saskatchewan	FPT
Stan Leyenhorst	Accessibility Alteration to existing buildings Housing supply	Inclusive Design Specialist Universal Access Design Inc	British Columbia	Industry
Natalie Tornatora	Accessibility Fire protection Use and egress	Architect Lemay	Quebec	Industry
Conrad Speckert	Use and egress Accessibility Fire protection	Architect at LGA Architectural	Ontario	Industry
Timothy John Krahn	Structural design HVAC and plumbing Housing and small buildings	P. Eng. (Builder) Building Alternatives Inc.	Ontario	Industry
Jack Keays	Fire protection	Principal at Vortex Fire	Ontario, Manitoba	Industry
Kieran Ager	Fire protection Use and egress	Principal Technical Director at LMDG	Alberta	Industry

Andrea Gilders	Accessibility	Standards Technical Committee Chair at UL Standards & Engagement	National	General Interest
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Appendix E

REVIEW OF PUBLIC COMMENTS

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4.4. Review of public comments—PCF 1872

Action Requested: Decision Guidance Information

Summary

PCF 1872 was developed by the SC-FP in the previous (2020–2025) code cycle for consideration in the 2025 edition of the National Fire Code (NFC). It revises the minimum requirements for and exceptions to the protective encapsulation of mass timber elements in EMTC buildings under construction.

PCF 1872 was originally included in the fall 2023 public review. In response to the comments received, the SC-FP agreed to revise it subject to subsequent public review. The revised proposed change was then resubmitted to the fall 2024 public review, which concluded on December 19, 2024. Because the SC-FP’s term expired on December 31, 2024—and because EMTC is part of the NMCC-FLS’s mandate for the 2025–2030 code cycle—the NMCC-FLS was assigned the responsibility of addressing the public review comments received.

In total, 12 comments were received (see summary table, below). Each comment was analyzed and provided with a possible committee action (PCA) to assist the NMCC-FLS in addressing concerns raised by the commenter. By no means should a PCA be interpreted as the final committee action (CA) decided on by the NMCC; it is only provided as a suggestion and launching point for the discussion of a potential outcome.

PCF	Title	Public review comments				Total
		Support	Support w/comments	Support w/modifications	Do not support	
1872	Revisions to protection requirements for EMTC during construction	4	1	5	2	12

In this Agenda Package

1. *Proposed changes (PCF 1872)*
2. *Public comments report*

Desired Outcome

Review and agree on a committee action for each comment received from the public and recommend action to the Codes Board.

[Submit a comment](#)

Proposed Change 1872

Code Reference(s):	NFC20 Div.B 2.8.2.11. (first printing) NFC20 Div.B 5.6.4. (first printing)
Subject:	Encapsulated Mass Timber Construction
Title:	Revisions to Protection Requirements for EMTC During Construction
Description:	This proposed change revises the minimum requirements for and exceptions to the encapsulation of mass timber elements.
Related Code Change Request(s):	CCR 1381
Related Proposed Change(s):	PCF 1870, PCF 1879, PCF 1963

This change could potentially affect the following topic areas:

- | | |
|--|---|
| <input type="checkbox"/> Division A | <input checked="" type="checkbox"/> Division B |
| <input type="checkbox"/> Division C | <input checked="" type="checkbox"/> Design and Construction |
| <input type="checkbox"/> Building operations | <input type="checkbox"/> Housing |
| <input type="checkbox"/> Small Buildings | <input checked="" type="checkbox"/> Large Buildings |
| <input checked="" type="checkbox"/> Fire Protection | <input type="checkbox"/> Occupant safety in use |
| <input type="checkbox"/> Accessibility | <input type="checkbox"/> Structural Requirements |
| <input type="checkbox"/> Building Envelope | <input type="checkbox"/> Energy Efficiency |
| <input type="checkbox"/> Heating, Ventilating and Air Conditioning | <input type="checkbox"/> Plumbing |
| | <input checked="" type="checkbox"/> Construction and Demolition Sites |

Problem

Article 5.6.4.3. of Division B of the 2020 edition of the National Fire Code of Canada (NFC) provides requirements related to the type and degree of encapsulation protection of mass timber elements necessary in encapsulated mass timber construction (EMTC) while the building is under construction. In particular, these requirements mandate that at least 80% of the underside of mass timber floor assemblies be protected by some minimum level of encapsulation (e.g., using one layer of 12.7 mm thick Type X gypsum board).

This proposed change is related to PCFs 1870 and 1963 from the national public review of proposed changes to the 2020 National Model Codes (which ran from October 24, 2023 until December 18, 2023), which described proposed changes to Articles 3.1.6.4.

and 3.1.6.6., respectively, of Division B of the 2020 edition of the National Building Code of Canada (NBC). These NBC Articles address the requirements for and exceptions to the encapsulation of mass timber elements in finished buildings of EMTC. In particular, the Articles permit from 10% to 25% of the surface of mass timber ceilings to be left exposed within a suite.

PCFs 1870 and 1963 included proposed changes, based on several research studies involving mass timber compartment fire scenarios, to allow 100% of the surface of mass timber ceilings within a suite to be exposed.

After considering the comments from the public on PCFs 1870 and 1963, it was recommended that these proposed changes, with some minor modifications, be included in the NBC 2025.

Consequently, there is a need to propose the alignment of the requirements for mass timber protection for ceilings during construction in NFC Article 5.6.4.3. and allow ceilings to be left exposed where no such encapsulation is required in the finished building.

Further, during current EMTC projects, difficulties have been encountered when reconciling the requirements of NFC Article 5.6.4.3. during construction with measures to control moisture and mould affecting the encapsulated wood elements, as well as the materials used for encapsulation.

In aligning the provisions of the NBC and NFC to permit 100% exposed mass timber ceilings during construction, the following impacts of not encapsulating the ceilings must be considered:

- the risk of fire spread to more than one storey during a fire, and
- the need to ensure emergency responders and firefighters can access the fire floor.

Critical elements for reducing and limiting these impacts include:

- development of and compliance with a construction fire safety plan, which may include:
 - managing combustible materials on site,
 - maintaining access to exit routes from and ingress routes to the fire floor, and
 - providing site security (e.g., to reduce the threat of arson) and monitoring of fire hazards.
- reducing or protecting the physical pathways along which fire spreads within a storey or between storeys.

Experience has shown that light wood-frame buildings under construction constructed are highly susceptible to significant loss or collapse in a fire, especially when the passive and active fire protection measures that have been planned for the finished building are not in place. Recent fire research on mass timber buildings using both compartment and construction fire scenarios indicates that mass timber buildings are more structurally resistant to the effect of fire and more difficult to ignite and sustain combustion, especially given the reduced fuel load on a construction site.

Justification

PCFs 1870 and 1963 include proposed changes, based on the most recent fire research, to allow 100% of the underside of each mass timber floor assembly within a suite to be left exposed in the finished building, expanding the NBC provisions related to encapsulation of mass timber elements within buildings permitted to be of EMTC.

The rationales supporting both PCFs 1870 and 1963 explain how recent fire research was performed that supports the proposed changes to the permitted percentage exposure of mass timber elements. With that, this proposed change revises the degree of protection of mass timber ceiling elements in EMTC while a building is under construction. This proposed change would harmonize the NFC requirements with those of the NBC for finished buildings of EMTC.

The NRC report titled, "Large-Scale Fire Tests of a Mass Timber Building Structure for MTDFTP" [1], describes a total of five mass timber compartment fire tests in a large two-storey structure that included varying amounts of exposed mass timber wall, ceiling, floor, beam and column surfaces. Two of the five fire tests used construction site fire scenarios with different levels of fuel loads. Test 3 was conducted in a small (3.2 m × 7.0 m × 3.0 m) compartment on the second storey with a metal garbage can containing a wood crib fuel load, while Test 4 was run in a larger compartment (7.1 m × 7.5 m × 3.0 m), again on the second storey with a more severe moveable fuel load of wood cribs and unprotected light wood-frame partition walls. These relatively small compartments represented a severe fire scenario from the point of view of heat re-radiation between mass timber surfaces and other combustible surfaces, which is a critical aspect for the continued burn of the mass timber surfaces once the movable fuel load is consumed. The window openings of the compartments, located within the protected light frame steel exterior walls, provided a ventilation condition in which a longer fire duration and confinement led to higher plumes being ejected through the openings. This ventilation condition represented a more severe fire scenario compared to an open floor area undergoing construction. Table 1 provides a summary of the tests.

Table 1. Summary of Mass Timber Demonstration Fire Test Program (MTDFTP) Construction Site Fire Compartment Test Configurations

Test No.	Description	Exposed Mass Timber Surfaces	Percent of Exposed Mass Timber	Results
3	Construction site: Garbage bin fire source	CLT floor	100%	The garbage bin fire grew slowly, causing a flashover at 23 min. The fire plumes exiting from the window were short lived for only 1 min, reaching a peak height of 6 m for only a few seconds. No flames were visible on the CLT ceiling, wall or floor by 25 min. By 30 min, the temperatures in the compartment dropped to below 160°C. The remaining debris in the garbage bin was completely consumed by 35 min.
		CLT ceiling	100%	
		CLT exit stair wall	16% of total perimeter wall area	

4	Construction site: Wood crib and light wood-framing fire source	CLT floor	100%	The fire took approximately 8 min to fully involve the compartment, followed by a 10-min period of fully developed burning with plumes exiting from the windows, reaching over 6 m high. The fire started to decay at 18 min when most of the added fuel was consumed or had fallen onto the floor. The flaming combustion was quickly reduced on the mass timber elements and the fire plumes ceased to exit from the openings by 19 min. As the fire continued to decay, visible flaming on the mass timber elements mostly ceased after 30 min. The compartment temperatures decreased to 300–400°C at 60 min. However, the fire did not reach full extinguishment: the floor remained glowing, the mass timber elements exhibited intermittent small flames in the joints and junctions, and the compartment temperatures ascended to 400–600°C by the end of the test. Due to the smoke being blown towards the occupied buildings on the campus, the test had to be terminated at 148 min.
		DLT ceiling	100%	
		Glulam beams and columns	25% of total perimeter wall area	

Both fire test scenarios had 100% of the ceilings exposed, yet both design fires reached the decay phase within 60 min with no fire department intervention which, in a real construction scenario, would occur following site personnel detection. These results could suggest that other fire safety measures may be an option to encapsulation during construction while appropriately reducing the risk of fire spread to more than one storey.

Consideration of the Fire Safety Concepts Tree

The new fire safety strategies proposed in PCF 1872 for EMTC buildings are built upon, supplement, or provide options to the existing fire safety strategies in NFC Subsections 5.6.1., 5.6.3. and 5.6.4. Overall, these combined fire protection strategies for construction and demolition sites provide a holistic and reliability-structured approach to limit the escalation of fire and have generally been developed in the context of the Fire Safety Concepts Tree (FSCT) described in NFPA 550, "Guide to the Fire Safety Concepts Tree." The FSCT provides a structured means to examine fire safety strategies in a risk reduction context, and in consideration of the reliability of sets of measures (for more details, see Figure 4.3 in NFPA 550).

Two key objectives of the FSCT are:

1. Prevent fire ignition: reduce the probability of fire occurring
2. Manage fire impact: reduce the consequence of the fire

Table 2 categorizes and annotates select NFC provisions relative to the objectives and sub-objectives of the FSCT.

Table 2. NFC Provisions (Existing and Proposed) Relative to the Fire Safety Concepts Tree

FSCT Objective and Sub-objective(s), as applicable	Mitigation Strategy Proposed to be Examined (NFC provision, existing or proposed)⁽¹⁾
1. Prevent Fire Ignition	

Control Heat Energy Sources	5.6.1.7. Hot Surface Applications 5.6.1.8. Ignition Sources 5.6.1.9. Building Services at Demolition Sites 5.6.1.14. Watch 5.6.1.15. Smoking Restrictions 5.6.3.2. Smoking Restrictions (MR+MT) 5.6.3.8. Site Security (MR+MT)
Control Source-Fuel Interactions	5.6.1.3. Fire Safety Plan 5.6.1.8. Ignition Sources 5.6.1.10. Fuel Supply Installation 5.6.1.14. Watch 5.6.1.18. Storage and Use of Dangerous Goods 5.6.1.19. Temporary Enclosures 5.6.3.8. Site Security (MR+MT)
Control Fuel	5.6.1.18. Storage and Use of Dangerous Goods 5.6.1.20. Disposal of Combustible Refuse 5.6.3.4. Disposal of Combustible Refuse (MR+MT) 5.6.4.7.-2025 Indoor Storage of Combustible Materials (MT-p)
2. Manage Fire Impact	
Manage Fire — Control Combustion Process	5.6.4.7.-2025 Indoor Storage of Combustible Materials (MT-p)
Manage Fire — Suppress Fire	5.6.1.4. Access for Firefighting 5.6.1.5. Portable Extinguishers 5.6.1.6. Standpipe Systems 5.6.3.3. Site Identification (MR+MT) 5.6.3.5. Water Supply (MR+MT) 5.6.3.6. Hydrant Access (MR+MT) 5.6.4.2. Standpipe Installation (MT-e) 5.6.4.6.-2025 Progressive Sprinklering (MT-p)
Manage Fire — Control Fire by Construction	5.6.4.4.-2025 Protective Encapsulation (MT-e) 5.6.4.5.-2025 Alternative Protection Measures (MT-p)
Manage Exposed — Limit Amount Exposed	5.6.1.2. Measures to Mitigate Fire Spread to Adjacent Buildings
Manage Exposed — Safeguard Exposed	5.6.1.12. Fire Separations in Partly Occupied Buildings 5.6.1.13. Protection during Shutdown 5.6.1.16. Provision for Egress 5.6.1.17. Fire Warning 5.6.3.7. Construction Access (MR+MT) 5.6.4.3.-2025 Measures to Reduce the Risk of Fire Spread Between Storeys (MT-p)

Note to Table 2:

(1) The abbreviations used in the table have the following meanings:

MR+MT = midrise and mass timber

MT-e = mass timber — existing

MT-p = mass timber — proposed

Organization of mitigation strategies based on the FSCT allows for consideration of the holistic approach to control fire initiation (ignition), growth and spread. These strategies can also be considered in the context of degrees of reliability in limiting fire escalation. For example, certain strategies limit the probability of fire initiation; however, where ignition occurs, additional measures then limit early fire growth. The probability of fire escalation is reduced at each stage of fire development by individual or groups of strategies. The proposed requirements build upon or provide options to the existing strategies to more specifically address the fire hazards associated with mass timber building construction and demolition sites.

Proposed Article 5.6.4.3.-2025 on Measures to Reduce the Risk of Fire Spread Between Storeys

This proposed Article addresses the reduction of risk of fire spread to more than one storey and includes a reference to both prescriptive and performance-based approaches applicable to all EMTC buildings under construction.

This proposed Article is analogous to the current NFC Article 5.6.1.2. for measures to mitigate fire spread to adjacent buildings, but includes an explicit prescriptive path as well. This proposed Article allows for the protection and hazard management approaches in Articles 5.6.4.4. to 5.6.4.7.-2025, while also allowing for the option of a fire risk assessment being conducted to determine the level of fire protection required on the site.

The proposed accompanying Note provides recommendations related to the professionals conducting the risk assessment.

Proposed Revision to Sentence 5.6.4.3.(2) (Now 5.6.4.4.(2)-2025) on Contiguous Storeys

A minor editorial revision is also proposed to clarify the intent of the existing requirement in Sentence 5.6.4.4.(2)-2025 regarding the four uppermost storeys.

Because this proposed change to the NFC aligns the requirements with the proposed changes to the NBC in PCFs 1870 and 1963, builders would not need to encapsulate the underside of floors during construction, only to remove the encapsulation when the building is finished, as would be permitted in the NBC as a result of PCFs 1870 and 1963.

Proposed Revision to Sentence 5.6.4.3.(3) (Now 5.6.4.4.(3)-2025) on Encapsulation Material

This minor revision aligns the existing provision on expanding the application methods for gypsum board encapsulation materials with the proposed changes to the NBC as a result of PCF 1963.

Proposed Article 5.6.4.5.-2025 on Alternative Protection Measures

Proposed Article 5.6.4.5.-2025 introduces an alternative to the requirements described in Clause 5.6.4.4.(1)(a)-2025, for protective encapsulation, and in Article 5.6.4.6.-2025, for progressive sprinklering. Article 5.6.4.5.-2025 introduces new fire protection measures to address safety during construction. These new measures are included in the following provisions:

- Sentence (2): the proposed measures for the protection of openings through

floor assemblies intend to limit the potential for fire spread through the openings to upper storeys for a minimum of 30 min. This 30-min value aligns with the 15-min fire performance required of fire block materials (see NBC Article 3.1.11.7.), wherein a 12.7 mm thick gypsum board and a 12.5 mm thick phenolic bonded plywood board are each deemed to remain in place and prevent the passage of flames for at least 15 min under standard fire exposure. The accompanying Note also explains that large openings may require additional fire protection.

- Sentence (3): the protection of perimeter joints between the edge of floor assemblies and exterior walls to limit the potential for fire spread through the joint to upper storeys.
- Sentences (4) and (5): the installation of hose stations with hose lines on standpipe systems for use in extinguishing or controlling any fires that may occur.
- Sentences (6) and (7): a person to conduct a fire watch on all storeys at certain times during the workday and afterwards to ensure the exits are kept clear and ensure the fire safety plan is followed. An explanatory Note provides recommendations regarding the knowledge and skill level of the person conducting the watch and considerations to be addressed by the construction fire safety plan, if necessary, such as the scheduled intervals of supervision of the site and the overall construction works during nonworking hours.

Proposed Sentence 5.6.4.5.(8)-2025 on Sequence of Implementation of Alternative Fire Protection Measures

Proposed Sentence 5.6.4.5.(8)-2025 is intended to be applied in conjunction with the other proposed requirements for protection described in that Article.

This involves a different approach than the current permission that allows the upper four unprotected contiguous storeys, in Article 5.6.4.4.-2025 and proposed Article 5.6.4.6.-2025. With that, once the fifth storey ceiling is installed, all storeys, including the first four storeys would then be required to use the alternative protection measures.

Proposed Article 5.6.4.6.-2025 on Progressive Sprinklering

Proposed Article 5.6.4.6.-2025 introduces an alternative to the requirements described in Clauses 5.6.4.4.(1)(a), (c) and (d)-2025 for protective encapsulation and in Article 5.6.4.5.-2025 for alternative protection measures. Proposed Article 5.6.4.6.-2025 introduces an alternative approach to the passive fire protection requirements by providing for an operational automatic sprinkler system that is installed progressively during construction in buildings of EMTC.

Proposed Article 5.6.4.7.-2025 on Indoor Storage of Combustible Materials

This proposed Article aims to manage the amount of combustible materials in discrete piles of limited sizes, as well as place restrictions on the relative locations of these piles. This provision aims to reduce the potential for fire spreading to multiple piles or from other ignition sources, without affecting the safe egress of occupants and while allowing for safe firefighting staging tactics.

Sentence (1): In line with current practices, the proposed limit on footprint area of an individual pile of combustible materials is representative of a standard wooden crate size (1.2 m × 2.4 m) used to transport materials.

Clause (2)(a): The proposed 3 m clearance between storage of combustible materials on a storey and the outer edge of the floor assembly has been established based on a study involving a radiant heat transfer analysis from the flame extension of the fire plume from a fire on the storey directly below the storey containing the storage.

The analysis assumed a vertical exposing plane on the upper storey, perpendicular to the slab edge, 20 m in length and extending the full 4 m storey height to represent the plume flame extension from below, reaching to and beyond the next storey above. Testing and studies of flame extension from openings in a compartment enclosure has shown a reduction of flame temperature away from the opening as a function of the horizontal distance, as well as a reduced emissivity as a function of the flame depth measured from the plane of the wall. A sensitivity study was conducted examining the radiant heat emissive power of the 20 m × 4 m plane as a function of temperature and emissivity, and the results from this study were then used to determine acceptable distances at which a critical heat flux of 30 kW/m² (approximate autoignition heat flux for wood) would not be reached.

In establishing an acceptable distance, the study considered heat flux measurements of 30 kW/m² in one of the construction site tests as part of the NRC report [1], as well as the acceptance and calibration criteria (35 kW/m² and 45 kW/m², respectively) used with respect to the NBC referenced standard CAN/ULC-S134, "Standard Method of Fire Test of Exterior Wall Assemblies," for exterior flame exposure.

This information is supportive of an upper emissive heat flux of approximately 50 kW/m² to establish acceptable corresponding distances from the sensitivity study. These distances ranged from 0 m to 2.6 m. Therefore, based on these results, 3 m has been identified as an acceptable distance for clearance between storage of combustible materials and the outer edge of the floor assembly.

Clauses (2)(b), (c) and (d): The proposed 3 m separation distance between individual piles is somewhat analogous to a similar provision for controlling the effects of fuels in proposed Sentence 3.1.6.4.(4)-2025 (PCF 1870), which would permit two facing or adjacent exposed mass timber walls within a suite provided a 4.5 m horizontal distance is maintained between them. A distance of 3 m between storage piles as well as between piles and exits is considered to provide a reasonable level of protection in this situation and maintains access to exits to facilitate the safe egress of occupants as well as staging for firefighting operations. The 3 m dimension is also applied elsewhere in the NFC and NBC where limits are placed on the distance between storage and other elements (e.g., wall openings, flammable liquid storage and exits) in occupied buildings.

Sentence (3): A clearance of 1.5 m is proposed to be maintained between the top of storage and the underside of the lowest plane of any beam, floor or roof assembly above the storage to permit hose streams to be directed onto the top of storage, which is 50% greater than the NFC provision (Sentence 3.2.2.3.(2)) for 1 m clearance above the indoor storage in a building that is not sprinklered.

Explanatory Note: Proposed Note A-5.6.4.6.-2025 provides further insight into the accumulation of short-term transient storage which may be necessary for daily construction activities and connects the management of combustible materials to the existing NFC provisions.

Reference

[1] J. Su, E. Gibbs, M. Weinfurter, P.-S. Lafrance, K. Gratton, A. Frade, and P. Leroux. "Large-scale fire tests of a mass timber building structure for MTDFTP". National Research Council of Canada. Report No: A1-018329.1/A1-018487.1 (Ottawa, Canada; May 2023).

PROPOSED CHANGE AS SUBMITTED TO FALL 2023 PUBLIC REVIEW

[2.8.2.11.] 2.8.2.11. Construction and Demolition Sites

[5.6.4.] 5.6.4. Additional Requirements for Buildings of Encapsulated Mass Timber Construction

[5.6.4.1.] 5.6.4.1. Application

[5.6.4.2.] 5.6.4.2. Standpipe Installation

[5.6.4.3.] 5.6.4.3. Protective Encapsulation and Fire Protection

- [1] 1) Except as provided in ~~Sentences (2) and (3)~~Sentences (2) to (4) and (6)-2025, to address safety during construction, a protective encapsulation material or an assembly of materials providing an *encapsulation rating* of not less than 25 min, as determined in accordance with Sentence 3.1.6.5.(1) of Division B of the NBC, shall be installed
- [a] a) such that not more than 20% of the area of the underside of each mass timber floor assembly on each *storey* is exposed during construction,
 - [b] b) on the interior side of stairways required by Sentence 5.6.3.7.(3) and of *vertical service spaces* where the enclosures are constructed of mass timber elements,
 - [c] c) on each face of solid lumber or mass timber *partitions* not less than 38 mm thick and on each face of *partitions* containing wood framing as permitted by Article 3.1.6.15. of Division B of the NBC, and
 - [d] d) such that not more than 35% of the total area of structural mass timber walls within the *storey* is exposed during construction.
- (See Note A-5.6.4.3.(1).)

[2] --) Except as provided in Sentence (5)-2025, a protective encapsulation material or assembly of materials need not be installed as described in

Clause (1)(a), provided

- [a] --) penetrations or openings through the floor assembly on any storey are
 - [i] --) protected with a firestop conforming to Sentence 3.1.9.1.(1) of Division B of the NBC,
 - [ii] --) filled with noncombustible insulation that is supported in place, or
 - [iii] --) protected, from the top of the floor assembly, with a single layer of not less than 12.7 mm thick Type X gypsum board mechanically fastened to not less than 12.7 mm thick plywood or OSB with the gypsum board facing the penetration (see Note A-5.6.4.3.(2)(a)-2025),
- [b] --) joints located in a horizontal plane between the floor and an exterior wall on any storey are
 - [i] --) protected with a firestop conforming to Sentence 3.1.8.3.(4) of Division B of the NBC, or
 - [ii] --) filled with noncombustible insulation that is supported in place,
- [c] --) a standpipe system is installed in accordance with Articles 5.6.1.6. and 5.6.4.2., and is provided with hose stations for occupant use that are equipped with a hose line having
 - [i] --) a diameter of either 25 mm or 38 mm, and
 - [ii] --) a length sufficient to cover all parts of the storey with a hose stream of not less than 5 m (see Note A-5.6.4.3.(2)(c)-2025), and
- [d] --) a fire watch is conducted on all storeys
 - [i] --) at intervals of not more than 1 h when workers are present in the building, and
 - [ii] --) not less than 1 h after workers leave the building (see Note A-5.6.4.3.(2)(d)-2025).

[3] --) Except as provided in Sentence (4)-2025, a protective encapsulation material or assembly of materials need not be installed as described in Clauses (1)(a), (c) and (d), provided an automatic sprinkler system

- [a] --) is progressively installed during construction in accordance with NFPA 13, "Standard for the Installation of Sprinkler Systems" (see Note A-5.6.4.3.(3)(a)), and
- [b] --) is in an operable condition at all times on any storey where it is not actively being worked on, until the automatic sprinkler system is completed.

[4] 2) ~~Not more than 4~~ The four uppermost contiguous storeys are permitted to be unprotected as required by ~~need not conform to the requirements of Sentence (1) or the conditions of Sentence (3)-2025~~ during construction.

[5] --) The first four storeys need not conform to the conditions of Sentence (2)-2025 during construction, until the ceiling assembly of the fifth storey is installed. (See Note A-5.6.4.3.(5)-2025.)

- [6] 3)** The encapsulation material or assembly of materials used to meet the requirements of Sentence (1) is permitted to consist of a single layer of Type X gypsum board not less than 12.7 mm thick conforming to Clauses 3.1.6.6.(4)(a) and (c)-2025 of Division B of the NBC (PCF 1963). ~~Clauses 3.1.6.6.(2)(a), (c) and (d) of Division B of the NBC.~~

Note A-5.6.4.3.(2)(a)-2025

Until permanent protection is provided, the fire protection of any penetrations or openings through the floor assembly can be temporary. Beyond those described in Clause 5.6.4.3.(2)(a)-2025, other forms of protection should have a noncombustible or other protective layer that will resist fire for a minimum of 30 min. Furthermore, any such protective layer should be structurally adequate over the penetrations or openings for the safety of occupants.

The fire protection of large penetrations or openings through floor assemblies, such as openings associated with convenience stairs, elevators or interconnected floor spaces, should address additional fire protection considerations, including structural support.

Note A-5.6.4.3.(2)(c)-2025

The length of hose should be sufficient to allow for adequate nozzle pressure and will depend on the chosen hose diameter. Typically, 38 mm diameter hose should have a length of not more than 30.5 m.

If construction reaches a height at which the public waterworks system can no longer provide the required flow and pressure, a temporary or permanent fire pump must be installed to adequately protect the uppermost storey of the building, unless the fire safety plan specifies an alternative approach that is permitted by the authority having jurisdiction.

Note A-5.6.4.3.(2)(d)-2025

The person conducting the fire watch should be familiar with all fire safety features of the building, including the fire safety plan, as provided in conformance with Section 2.8.

Note A-5.6.4.3.(3)(a)-2025

Even though NFPA 13, "Standard for the Installation of Sprinkler Systems", does not include specific provisions for installation of sprinklers during construction, it is expected that the requirements of NFPA 13 will be fully implemented as appropriate for the conditions that exist in the building under construction.

Note A-5.6.4.3.(5)-2025

It is intended that all storeys meet the conditions of Sentence 5.6.4.3.(2)-2025 once the ceiling assembly of the fifth storey has been installed.

REVISED PROPOSED CHANGE FOLLOWING FALL 2024 PUBLIC REVIEW

[2.8.2.11.] 2.8.2.11. Construction and Demolition Sites

(See Note A-5.6.4.7.)

- [1] 1)** Except as required in Sentence (2), prior to the commencement of construction, alteration or demolition operations, a fire safety plan shall be prepared for the site that includes
- [a] a) the designation and organization of site personnel to carry out fire safety duties, including a fire watch service if applicable (see also Sentences 5.6.4.5.(6) and (7)),
 - [b] b) the emergency procedures to be followed in the event of a fire, including
 - [i] i) initiating a fire warning,
 - [ii] ii) notifying the fire department,
 - [iii] iii) instructing site personnel on the procedures to be followed once the warning has been initiated, and
 - [iv] iv) confining, controlling and extinguishing the fire,
 - [c] c) measures for controlling fire hazards in and around the *building* (see Note A-2.8.2.11.(1)(c)), and
 - [d] d) a maintenance procedure for firefighting measures required in Section 5.6.
- [2] 2)** Where construction, alteration or demolition operations are carried out in an existing *building* that is required to have a fire safety plan conforming to this Section, the fire safety plan shall take into account the changes occurring to the *building*.

[5.6.4.] 5.6.4. Additional Requirements for Buildings of Encapsulated Mass Timber Construction

[5.6.4.1.] 5.6.4.1. Application

[5.6.4.2.] 5.6.4.2. Standpipe Installation

[5.6.4.3.] --- Measures to Reduce the Risk of Fire Spread Between Storeys (See Note A-5.6.4.3.-2025.)

- [1] --)** To reduce the risk of fire spread to more than one storey of a building or part of a building undergoing construction, alteration or demolition operations, measures shall be taken that
- [a] --) conform to Articles 5.6.4.4. to 5.6.4.7., or
 - [b] --) employ the methods and materials that are deemed necessary following a risk assessment as part of a fire safety plan.

[5.6.4.4.] 5.6.4.3. Protective Encapsulation ~~and Fire Protection~~

- [1] 1)** Except as provided in Sentences (2) ~~to~~ ~~and~~ (43) and Articles 5.6.4.5. and 5.6.4.6.(6)-2025, to address safety during construction, a protective encapsulation material or an assembly of materials providing an *encapsulation rating* of not less than 25 min, as determined in accordance with Sentence 3.1.6.5.(1) of Division B of the NBC, shall be installed
- [a] a) such that not more than 20% of the area of the underside of each mass timber floor assembly on each *storey* is exposed during construction,
 - [b] b) on the interior side of stairways required by Sentence 5.6.3.7.(3) and of *vertical service spaces* where the enclosures are constructed of mass timber elements,
 - [c] c) on each face of solid lumber or mass timber *partitions* not less than 38 mm thick and on each face of *partitions* containing wood framing as permitted by Article 3.1.6.15. of Division B of the NBC, and
 - [d] d) such that not more than 35% of the total area of structural mass timber walls within the *storey* is exposed during construction.
- (See Note A-5.6.4.34.(1).)
- [2] 2)** The four uppermost *storeys* need not conform to the requirements of Sentence (1) ~~or the conditions of Sentence (3)-2025~~ during construction.
- [3] 3)** The encapsulation material or assembly of materials used to meet the requirements of Sentence (1) is permitted to consist of a single layer of Type X gypsum board not less than 12.7 mm thick conforming to Clauses 3.1.6.6.(4)(a) and (c)-2025 of Division B of the NBC (PCF 1963).

[5.6.4.5.] --- Alternative Protection Measures

- [1] --)** Except as provided in Sentence (58), ~~the~~ protective encapsulation material or assembly of materials ~~need not be installed as~~ described in Clause 5.6.4.4.(1)(a) ~~7~~ and the progressive sprinklering described in Article 5.6.4.6. need not be provided where the conditions of Sentences (2) to (7) are met.
- [2] --)** ~~p~~Penetrations or openings through the floor assembly on any *storey* ~~are~~ shall be
- [a] --) protected with a firestop conforming to Sentence 3.1.9.1.(1) of Division B of the NBC,
 - [b] --) filled with noncombustible insulation that is supported in place, or
 - [c] --) protected, from the top of the floor assembly, with a single layer of not less than 12.7 mm thick Type X gypsum board mechanically fastened to not less than 12.7 mm thick plywood or OSB with the gypsum board facing the penetration.
- (~~s~~See Note A-5.6.4.35.(2)(a).)
- [3] --)** ~~j~~oints located in a horizontal plane between the floor and an exterior wall on any *storey* ~~are~~ shall be
- [a] --) protected with a firestop conforming to Sentence 3.1.8.3.(4) of

Division B of the NBC, or

[b] --) filled with noncombustible insulation that is supported in place.

[4] --) ~~a~~ A standpipe system ~~is~~ shall be installed in accordance with Articles 5.6.1.6. and 5.6.4.2.,

[5] --) The standpipe system described in Sentence (4) shall be ~~and is~~ provided with hose stations ~~for occupant use~~ that are equipped with a hose line having

[a] --) a diameter of either 25 mm or 38 mm, and

[b] --) a length sufficient to cover all parts of the storey with a hose stream of not less than 5 m.

~~(See Note A-5.6.4.35.(25)(c).), and~~

[6] --) A person shall be employed to conduct a fire watch ~~is conducted~~ on all storeys with tours

[a] --) at intervals of not more than 1 h when workers are present in the building, and

[b] --) not less than 1 h and no more than 2 h after ~~workers leave the building~~ daily work is complete.

~~(see Note A-5.6.4.3.(2)(d)-2025).~~

[7] --) The person employed to conduct the fire watch described in Sentence (6) shall be familiar with all fire safety features, including

[a] --) the fire safety plan as provided in conformance with Section 2.8., and

[b] --) the location and condition of exits.

~~(See Note A-5.6.4.5.(7).)~~

[8] --) The first four storeys need not conform to the conditions of Sentences ~~(2) to (7)~~ during construction, until the ~~ceiling~~ structural floor assembly ~~of above~~ the fifth storey ~~is~~ has been installed ~~constructed~~. (See Note A-5.6.4.35.(58)-2025.)

[5.6.4.6.] --- Progressive Sprinklering

[1] --) Except as provided in Sentence ~~(42)~~-2025, ~~at~~ the protective encapsulation material or assembly of materials ~~need not be installed as~~ described in Clauses 5.6.4.4.(1)(a), (c) and (d), ~~and the alternative protection measures described in Article 5.6.4.5. need not be~~ provided where an automatic sprinkler system

[a] --) is progressively installed during construction in accordance with NFPA 13, "Standard for the Installation of Sprinkler Systems" (see Note A-5.6.4.36.(31)(a)), and

[b] --) is in an operable condition at all times on any storey where it is not actively being worked on, until the permanent automatic sprinkler system is completed.

[2] **2)** The four uppermost storeys need not conform to the requirements of Sentence (1) ~~or the conditions of Sentence (3)-2025~~ during construction.

[5.6.4.7.] --- Indoor Storage of Combustible Materials**(See Note A-5.6.4.7.)**

- [1] --)** Combustible materials that are stored indoors shall be arranged in individual piles not exceeding 1.2 m in width and 2.4 m in length.
- [2] --)** A clearance of not less than 3 m shall be maintained between an individual pile of combustible materials described in Sentence (1) and
- [a] --) the outer edge of the floor assembly,
 - [b] --) any exit serving the storey,
 - [c] --) any individual pile of combustible materials, and
 - [d] --) any ignition source.
- [3] --)** A clearance of not less than 1.5 m shall be maintained between the top of an individual pile of combustible materials described in Sentence (1) and the underside of the lowest plane of any beam, floor or roof assembly.

Note A-5.6.4.3.-2025

As part of a fire safety plan, the methods and materials deemed necessary following a risk assessment can be used to reduce the risk of fire spread between storeys. Articles 5.6.4.4. to 5.6.4.7., together, provide solutions deemed acceptable for reducing this risk.

The risk assessment performed as part of the fire safety plan should be carried out by an experienced practitioner who is qualified in developing, selecting and using fire risk assessment methodologies. A qualified practitioner may be a registered professional engineer, certified fire protection specialist, or other suitably qualified and experienced professional.

Note A-5.6.4.34.(1)

The extent to which the structure under construction may need to be protected in accordance with Sentence 5.6.4.3.(1) may vary based on the fire safety plan. The protective encapsulation material or assembly of materials is intended to limit the potential for fire spread within the storey as well as to limit the potential for fire spread to upper storeys, thereby also limiting the potential exposure of adjacent structures to fire.

Note A-5.6.4.35.(2)(a)

Until permanent protection is provided, the fire protection of any penetrations or openings through the floor assembly can be temporary. Beyond those described in ~~Sentence~~ Clause 5.6.4.35.(2)(a), other forms of protection should have a noncombustible or other protective layer that will resist provide protection from fire for a minimum of 30 min. Furthermore, any such protective layer should be structurally adequate over the penetrations or openings for the safety of occupants.

~~The fire protection of~~ Large penetrations or openings through floor assemblies, such as openings associated with convenience stairs, elevators or interconnected floor spaces, ~~should address~~ may require additional fire protection considerations, including structural support.

Note A-5.6.4.35.(25)(e)

The length of hose should be sufficient to allow for adequate nozzle pressure and will depend on the chosen hose diameter. Typically, 38 mm diameter hose should have a length of not more than 30.5 m.

If construction reaches a height at which the public waterworks system can no longer provide the required flow and pressure, a temporary or permanent fire pump must be installed to adequately protect the uppermost storey of the building, unless the fire safety plan specifies an alternative approach that is permitted by the authority having jurisdiction.

The fire safety plan is intended to address any temporary provisions implemented during construction, including connections to water supplies and fire department connection locations.

Note A-5.6.4.35.(27)(d)

~~The person conducting the fire watch should be familiar with all fire safety features of the building, including the fire safety plan, as provided in conformance with Section 2.8.~~

The person employed to conduct the fire watch should be trained in the use of fire extinguishing equipment, as established in the fire safety plan conforming to Section 2.8.

The need for supervision of the site and overall construction works at scheduled intervals during non-working hours, including weekends, should be determined as part of the fire safety plan, taking into consideration factors such as site security and local conditions.

Note A-5.6.4.35.(58)

It is intended that all storeys meet the conditions of Sentences 5.6.4.35.(2) to (7) once the ~~ceiling~~structural floor assembly ~~of above~~ the fifth storey has been ~~installed~~constructed.

Note A-5.6.4.36.(31)(a)

Even though NFPA 13, "Standard for the Installation of Sprinkler Systems", does not include specific provisions for installation of sprinklers during construction, it is expected that the requirements of NFPA 13 will be fully implemented as appropriate for the conditions that exist in the building under construction.

Note A-5.6.4.7.

The short-term and transient accumulation and storage of combustible materials that are necessary for day-to-day construction activities may not constitute an undue fire hazard with respect to the placement of the materials. Nevertheless, the management of combustible materials and refuse, including their removal and disposal, must be carried out in accordance with Subsection 2.4.1. and Articles 5.6.1.20. and 5.6.3.4.

Impact analysis

This proposed change would introduce an option to allow 100% of the surface of the underside of each mass timber floor assembly to be exposed during construction. As noted above, Article 5.6.4.3. of Division B of the NFC 2020 mandates that at least 80% of the underside of mass timber floor assemblies be protected by a minimum level of encapsulation (e.g., using one layer of 12.7 mm thick Type X gypsum board).

As a result of the proposed increase in exposed ceiling construction, risk of fire growth and extended duration of flaming combustion also increases, which can contribute to spread within the storey and between storeys.

A more holistic approach is warranted and is being proposed in these changes with respect to addressing such risks from both a performance- and prescriptive-based perspective. This approach is somewhat analogous to what is already intended by NFC Article 5.6.1.2. with respect to addressing fire spread from construction sites to adjacent properties.

Table 3 provides a list of the proposed changes to the NFC, including the intent of the changes as related to managing/reducing the risk of fire during construction.

Table 3. Proposed Changes Related to Course of Construction Fires in EMTC

Proposed Change	Intent
Holistic requirement for performance-based fire risk assessment or use of prescriptive acceptable solutions to limit fire spread between storeys	Establish a fundamental approach to risk assessment and deemed-to-comply solutions
Fire blocking/firestopping of floor openings or joints between assemblies	Reduce fire spread between storeys
Installation of standpipe hoselines	Reduce fire spread Facilitate emergency operations
Fire watch/site security	Reduce/manage sources of ignition Ensure compliance with fire safety plan during construction
Progressive sprinkler protection	Reduce fire growth Facilitate emergency operations
Rules for storage of combustible materials	Reduce initial fuel package Reduce fire spread within a storey and between storeys Maintain clear and unobstructed exit/ingress paths for occupants and emergency responders

This proposed change provides additional options for fire protection during building construction, which may reduce costs in some instances as well as the need for extensive oversight from the authority having jurisdiction. As the existing compliance options (protective encapsulation) remain in the NFC, this proposed change would not entail any additional costs should that option be used.

By aligning the NFC requirements for the protection of mass timber elements during construction with those proposed for the NBC 2025 for the finished building, the expectation is that costs would either remain the same or be reduced due to the harmonization of requirements.

As the installation of encapsulation materials during the construction process can be physically challenging, having the option not to install encapsulation materials could help avoid issues related to:

- moisture and mould,
- costs of fixing moisture-related damage, and
- creation of waste,

while maintaining an acceptable level of fire safety.

Enforcement implications

There are no anticipated enforcement implications as this proposed change could be enforced by the existing Code enforcement infrastructure.

Who is affected

Architects, designers, developers, owners, and engineers would benefit from the increased flexibility provided by this proposed change.

Authorities having jurisdiction, including fire departments, would need to continue to evaluate their operating procedures in response to the requirements for EMTC.

PROCESS

Fire Protection — Review — (2023-03-09)

The Chair of the TG-EMTC explained that the TG-EMTC met ahead of Day 2 to address the comments received during Day 1 of the SC-FP 2020-11 meeting. The TG-EMTC Chair provided an overview of their recommendations for PCF 1872 for SC-FP's consideration.

The Chair of the TG-EMTC noted that the issue of leapfrogging fires was not deemed to be a concern substantial enough to warrant it being addressed in a new note or code provision in the NFC. As such, the TG-EMTC agreed to remove proposed Note A-5.6.4.3.(2)(b) from the PCF. The SC-FP agreed with this recommendation.

A member asked for clarification on the intent of the first sentence of Note A-5.6.4.3.(2)(a)(iii) with regards to the word "temporary". A TG-EMTC member explained that the intention is for temporary fire protection to be provided until permanent fire protection measures are installed.

The SC-FP agreed to revise the proposed Note A-5.6.4.3.(2)(a)(iii) to read as follows:

- "The fire protection of the penetrations through the floor assembly could be temporary until permanent protection is provided. Beyond those described, other forms of protection should utilize a noncombustible protective layer or any other protective layer that will provide protection from fire for a minimum of 30 min. Furthermore, any protective layer should be structurally adequate over the openings for the safety of occupants."

The SC-FP reviewed the recommendations proposed by the TG-EMTC regarding the PCF's rationale, as follows:

- The SC-FP agreed to the recommended edits for the 'Problem' statement, which raise the issue of managing moisture and mold during construction.
- The SC-FP agreed to the recommended additions for the 'Justification' section, which ensure every proposed new provision is encompassed.
- The SC-FP agreed to the recommended edits for the 'Impact Analysis', which refine the issue of managing moisture and mold during construction.

The SC-FP also agreed to a set of minor editorial modifications to the proposed provisions.

The SC-FP was satisfied with the proposed changes in PCF 1872 as revised (see Appendix C). The SC-FP agreed that the SC-HMA and the SC-UE should review PCF 1872 and provide their recommendations via cross-committee coordination before the SC-FP proceeds with a motion.

Hazardous Materials and Activities — Review — (2023-03-23)

SC-HMA reviewed PCF 1872 via TeamworkPM.

Concern was raised on the proposed Sentence 5.6.4.3.(3) providing exemption to the type and degree of encapsulation protection of mass timber elements in EMTC during construction if an automatic sprinkler system is available, based on the assumption that the sprinkler system installed progressively during construction will be fully active, maintained in all weather and capable of suppression until fire department responds. However, if the sprinkler activation is delayed due to lack of heat containment or insufficient pressure/flow at the discharge point affecting spray pattern, then the fire spread may surpass the point of safe extinguishment by responders particularly on floors above the fire aerial or ladders reach. It was concerned that the sprinkler system installed in the EMTC during construction will not perform as intended by the NFPA 13 standard, and the relaxations related to the proposed Sentence 5.6.4.3.(3) may allow significant fire spread on the fire floor and to upper floors.

SC-HMA recommends to address the concern raised and move forward with PCF 1872.

Use and Egress — Review — (2023-04-11)

Cross-committee coordination was performed offline. There were no negative comments. One member noted that enforcement of the provisions may be very difficult especially considering the required expertise of enforcement agencies.

Fire Protection — Review — Recommended for Public Review (2023-06-05)

The SC-FP received an overview of the comments received from the SC-HMA and the SC-UE regarding PCF 1872.

The SC-FP discussed the concern that sprinklers may not operate accurately or effectively if installed progressively during construction. It was noted that proposed Sentence 5.6.4.3.(3) could need further development to clarify expectations for the sprinkler system. A few suggestions were to remove it from the requirement, or to move the option into an explanatory Note instead. Another suggestion was to leave this option in the PCF as-is, and await additional feedback from industry on the operability of such requirements.

It was clarified that the intention is for the chosen sprinkler system to be in operable condition (i.e. have enough water supply and pressure). Regarding outdoor environments, it was noted that there are several instances of where sprinklers operate outside and are functional; the onus is on the installers to consider construction types. It was also noted that sprinklers could be moved to align with the final installation of ceilings.

A concern was raised that the testing verification (i.e. to be in accordance with NFPA 13) could be a problem, as NFPA 13 does not apply to buildings under construction. Furthermore, the testing could be complicated in buildings under construction, which may result in this option not being used. It was noted that there are provisions within NFPA 13 that address open air sprinklers and “unconfined” spaces (i.e. balconies, open air garages, etc.), which may apply in some cases.

It was suggested that since it *is* possible for a sprinkler system to be installed and operable during the construction process, the option should remain. A member of the TG-EMTC explained that despite this proposed pathway potentially being used infrequently, the TG still felt that it was important to include sprinkling as an option.

It was asked if part of the NFPA 241’s scope is to address sprinkler installations for buildings under construction. NFPA 13 typically considers a fully enclosed building in design and implementation, whereas NFPA 241 addresses temporary construction conditions. It was noted that the TG-EMTC did not review the contents of NFPA 241 in its entirety when developing proposed Sentence 5.6.4.3.(3).

It was suggested that an explanatory Note be added to provide clarification on the installation of sprinklers for buildings under construction to address the above concerns. The SC-FP agreed to recommend the approval of PCF 1872 for public review, with the following additional explanatory Note:

Note A-5.6.4.3.(3)-2025

Even though there are no specific provisions for installation of sprinklers during construction within NFPA 13, it is expected that the full requirements of NFPA 13 will be implemented for the conditions that exist in the building under construction.

Moved by A. Harmsworth and **seconded** by J. Jeske that the proposed changes related to PCF 1872 as revised during the 2020-12 Meeting of the Standing Committee on Fire Protection be recommended to the Canadian Board for Harmonized Construction Codes for publication in the next edition of the National Fire Code pending public review. (Motion carried)

Canadian Board for Harmonized Construction Codes — Review — Recommended for Public Review (2023-08-17)

At its August 17, 2023 in-camera meeting, the CBHCC agreed by consensus to forward PCF 1872 to public review

Analysis of PR Comments — (2024-02-02)

Analysis of PR Comments — (2024-02-13)

The TG-EMTC met in advance of the SC-FP's 2020-15 meeting to review the Fall 2023 public review comments and corresponding possible committee actions (PCA) for PCF 1872. The TG-EMTC was asked to prepare a recommendation for the SC-FP on (i) how to finalize each corresponding Committee Action (CA), and (ii) how to proceed with the PCF overall.

An excerpt from the meeting minutes containing the TG-EMTC's overall recommendation is included below:

The TG received an overview.

[...]*

Recommendation for the SC-FP: The TG recommends that PCF 1872 proceeds with technical (non-adverse) and editorial revisions.

[...]*

**Staff note: For more details (such as the full discussion on individual comments), please refer to the TG-EMTC's full set of 2020-07 meeting minutes.*

Hazardous Materials and Activities — Review of PR Comments — (2024-02-23)

SC-HMA reviewed the Possible Committee Actions (PCAs) and the public review comments received on PCF 1872, and raised no issue on TG-EMTC's overall recommendations that are related to the SC-HMA mandates.

Use and Egress — Review of PR Comments — (2024-02-23)

The SC-UE reviewed this PCF on Teamwork in February 2024. A comment was raised relating to fire watches, which was relayed to the SC-FP for their upcoming meeting.

Fire Protection — Review of PR Comments — (2024-03-01)

****DRAFT MINUTES*****

The SC-FP received an overview of PCF 1872 and was briefed on the TG-EMTC's recommendations and key considerations.

[...]*

Following the discussion on Comment 68017, It was acknowledged that there may not be enough comfort for the SC-FP to consider a motion at this meeting as to how PCF 1872 should proceed, since several members had expressed hesitation.

The SC-FP agreed to send PCF 1872 back to the TG-EMTC to further consider to address the public comments and resultant outstanding concerns of certain SC-FP members (which arose in consideration of Comment 68017). The SC-FP agreed that the TG-EMTC's discussion should focus on elements within its mandate and within the scope of the PCF 1872. It was suggested that the PCAs could be further revised to reflect the result of the TG-EMTC's recommendations.

At the request of the TG-EMTC Chair (who is also an SC-FP member), the SC-FP agreed that SC-FP members with outstanding concerns should submit their feedback in writing to the TG-EMTC. This would help focus the further discussion of the TG-EMTC, considering that they had already discussed the public comments and provided recommendations to the SC-FP (for the PCAs and PCF itself) on how to proceed. Since the SC-FP had previously been supportive of PCF 1872 (i.e. through its decision to recommend to for public review), it was requested that the TG-EMTC receive a clear indication of any/all new hesitations that the SC-FP expects it to discuss, address, and/or reconsider. It was also suggested that SC-FP members with outstanding concerns participate in the TG-EMTC's next meeting. There was agreement that all SC-FP members should be invited to the TG-EMTC's next meeting to encourage this participation, as requested.

ACTION: Gather written feedback from SC-FP members regarding outstanding public review concerns on PCF 1872 for the TG-EMTC's further consideration at its next meeting.

ACTION: Invite all interested SC-FP members to the TG-EMTC's 2020-08 meeting.

[...]*

**Staff note: For more details (such as the full discussion on individual comments), please refer to the SC-FP's full set of 2020-15 meeting minutes.*

Hazardous Materials and Activities — Review — (2024-03-22)

The SC-HMA received an overview of public comments regarding PCF 1872.

This proposed change revises the minimum requirements for and exceptions to the encapsulation of mass timber elements during construction.

It was noted that a Standing Committee on Use and Egress (SC-UE) member raised concerns about fire watches, which was shared with the Standing Committee on Fire Protection (SC-FP) for consideration.

It was noted that this PCF was recently reviewed by the SC-FP. Following significant member concerns, the SC-FP referred the PCF to the TG-EMTC for further work.

The following points were raised:

- Regarding fire watch, it was noted that early intervention/awareness would be paramount—24/7 fire watch is possible, even while no workers are present?
- Regarding some of the negative comments on NFPA 13, "Standard for the Installation of Sprinkler Systems", not being the appropriate reference, it was noted that the TG modified its explanatory Note to clarify the reference. Instead of suggesting that NFPA 13 be fully implemented, it would be worth suggesting that NFPA be adopted to the extent appropriate (as indicated by the risk assessment).

Action: Staff to share the additional comments raised by the member (during and after the SC-HMA meeting) with the TG-EMTC.

Analysis of PR Comments — (2024-04-25)

The TG-EMTC met in advance of the SC-FP's 2020-16 meeting to further review the Fall 2023 public review comments and corresponding possible committee actions (PCA) for PCF 1872.

The TG-EMTC was encouraged to further revise the PCAs and/or PCF 1872 as it sees best fits to address the outstanding concerns raised at and following the SC-FP's 2020-15 meeting.

An excerpt from the meeting minutes containing the TG-EMTC's overall recommendation is included below:

DRAFT MINUTES

The TG received an overview.

[...]*

Recommendation for the SC-FP: The TG recommends that PCF 1872 proceeds with technical and editorial revisions pending subsequent public review and CCC with the SC-UE and SC-HMA.

[...]*

**Staff note: For more details (such as the full discussion on individual comments), please refer to the TG-EMTC's full set of 2020-08 meeting minutes.*

Hazardous Materials and Activities — Review of PR Comments — (2024-05-17)

The SC-HMA chair confirmed that PCF 1872 will not impact SC-HMA's provisions and will not require further Cross-Committee Coordination (CCC) with the SC-HMA members.

Fire Protection — Review of PR Comments — Resubmit for Public Review (2024-06-03)

DRAFT MINUTES

The SC-FP received an overview of PCF 1872 and briefed on the TG-EMTC's recommendations (following its 2020-08 meeting), including key considerations for addressing the public review comments, initial SC-FP members' feedback, and preliminary cross-committee coordination feedback submitted by the SC-UE. It was noted that the SC-UE will complete its cross-committee coordination at its upcoming (2020-44) meeting.

Support was expressed for the TG Chair's proposed revision to Subclause 5.6.4.3.(e)(ii) (regarding fire watch) to address the SC-UE's comments.

It was explained that the intent of this provision is for the fire watch tour to occur 1-2 hours after work wraps up for the day, so that it is not occurring immediately after that day's work, nor immediately before work starts back up on a subsequent day.

The SC-FP agreed to incorporate the following revision into PCF 1872:

"ii) not less than 1 h, and no more than 2 h, after daily work is complete, and..."

Concern was raised that a single fire watch at the end of a work day may not be sufficient, and noted that more may be necessary. Some projects require a 24-hour fire watch, though it was acknowledged that mandating this may introduce new concerns around costs and may not actually be necessary for some sites.

It was noted that costs for covering fire watch is already a concern in BC; it was suggested that this be kept in mind when considering required duration/frequency of the requirement.

It was raised that the body of the Code may not be the most appropriate place to mandate a requirement for 24-hour supervision, and noted that the construction fire safety plan should also be considered.

Regarding the frequency of fire watch when workers are not present in the building, it was noted that this was discussed in detail by the TG-EMTC. One challenge is that this aspect of fire safety planning is a discussion broader than just its application to EMTC buildings under construction. For the purposes of PCF 1872, it was explained that the additional language proposed for explanatory Note A-5.6.4.3.(2)(f) is intended to address this, as it flags scheduling and project-specific considerations (such as site security and local conditions) while reiterating the role of the construction fire safety plan.

Support was expressed for proposed explanatory Note A-5.6.4.3.(2)(f).

It was asked why “person” was used instead of the defined term “Supervisory staff” in proposed Clauses 5.6.4.3.(e) and (f).

It was explained that similar language (i.e. “a person employed to conduct...”) is already used elsewhere in the NFC (such as in Article 2.9.3.4.), so there is precedent. Another consideration is that Supervisory staff may be a person employed by the contractor, but may not be at certain times.

It was further clarified that Supervisory staff, by definition in the NFC, refers to an individual who is properly trained in emergency procedures and delegated with the responsibility to enforce the fire safety plan. It is quite possible that the Supervisory staff would lead employees who would conduct fire watches and other duties required under the fire safety plan.

The SC-FP agreed that using broader term “person” in the proposed wording would be inclusive of these situations, and remains acceptable.

Support was expressed for a suggestion to refer to the “structural floor assembly” instead of the “ceiling assembly” in Sentence 5.6.4.3.(5) and its explanatory Note A-5.6.4.3.(5), to address a concern that it could otherwise be interpreted to mean the finished ceiling assembly (which was not the intent). The SC-FP agreed to incorporate this revision into PCF 1872 as follows:

“5) The first four storeys need not conform to the conditions of Sentence (2)-2025 during construction, until the ~~ceiling~~ structural floor assembly ~~of above~~ the fifth storey ~~is has been installed constructed~~. (See Note A-5.6.4.3.(5)-2025.)

[...]

Note A-5.6.4.3.(5)

It is intended that all storeys meet the conditions of Sentence 5.6.4.3.(2)-2025 once the ~~ceiling~~ structural floor assembly ~~of above~~ the fifth storey has been ~~installed constructed~~.”

Support was expressed for the recommendations provided by the TG-EMTC to enhance the PCF. It was noted that this is great work, and the TG-EMTC was praised for its efforts in thoroughly addressing the public comments and concerns raised.

The SC-FP agreed that the TG-EMTC’s recommendations, in tandem with the SC-FP’s further revisions, appropriately address the public comments and other feedback received.

The SC-FP agreed to update and finalize the corresponding Committee Actions (CAs), accordingly.

ACTION: Update the Committee Actions for PCF 1872 to reflect the SC-FP’s final revisions.

The SC-FP was briefed on a suggestion to restructure the code provisions in PCF 1872, which stemmed from Codes Canada’s QA process. It was noted that members of the TG-EMTC, who were consulted in advance of Day 2 of the meeting, were receptive to the suggestion.

An outline of the potential re-structuring was displayed on-screen, and is included as **Appendix X**.

It was noted that reorganizing some of the provisions (i.e. encapsulation, alternative fire protection measures, progressive sprinklering) into distinct Articles could help code users understand the intended application of requirements. If there is support in principle, and the intended application of the provisions remain clear, then the final restructuring can be handled editorially following the meeting.

No concerns were raised with the proposed restructuring.

ACTION: Restructure PCF 1872's code provisions in accordance with the outline.

The SC-FP agreed that PCF 1872 proceeds with technical and editorial revisions pending subsequent public review and cross-committee coordination with the SC-UE.

Moved by A. Harmsworth and **seconded** by S. Watt that the proposed changes related to PCF 1872 as revised during the 2020-16 Meeting of the Standing Committee on Fire Protection be recommended to the Canadian Board for Harmonized Construction Codes for publication in the next edition of the National Fire Code pending further public review (i.e. resubmission) and cross-committee coordination with the SC-UE. **Motion carried.**

ACTION: Forward the SC-FP's decision on PCF 1872 to the SC-UE to complete cross-committee coordination.

Use and Egress — Review of PR Comments — Resubmit for Public Review (2024-06-04)

The SC-UE received an overview of PCF 1872 revising the minimum requirements for and exceptions to the encapsulation of mass timber elements, its PCA report, and the Standing Committee on Fire Protection's (SC-FP) decision (pending cross-committee coordination with the SC-UE).

The SC-FP discussed the PCAs submitted by the TG on EMTC, agreed on the recommendations that significantly revised the original PCF, in response to the comments received, and a motion to send it back to public review, pending coordination with the SC-UE.

There was discussion around the differences for fire watch and inspection requirements for hot works. It was noted it should be clear that the new requirements in the PCF do not exempt the other requirements for hot works. It was clarified this was additional requirements for EMTC and not intended to exempt other activities. It was suggested there could be some cross-references added for clarity, although it was acknowledged that the codes didn't put cross-references everywhere and code users should follow relevant requirements.

It was noted that there could be security concerns when the work site is closed but people still enter the site (homelessness, vandalism, arson, etc). It was noted that the explanatory note included wording to consider the overall needs of a job site for specific projects in assessing fire safety planning and supervision needs. There were questions about ability/resources to enforce the requirements on material placements on the job site. Some of the dimensions were selected to be practical/common knowledge and easy to implement.

Recommendation to SC-FP: Proceed as recommended to resubmit the PCF to public review.

Moved by R. Raoul and **seconded** by R. Strickland that the proposed changes related to PCF 1872, as revised during the 2020-16 Meeting of the Standing Committee on Fire Protection, as it pertains to Article 2.8.2.11. of the NFC as presented during the 2020-44 Meeting of the Standing Committee on Use and Egress (SC-UE), be recommended to the Canadian Board for Harmonized Construction Codes (CBHCC) for publication in the next edition of the National Fire Code, pending further public review (i.e. resubmission). (Motion carried).

Canadian Board for Harmonized Construction Codes — Review of PR Comments — Resubmit for Public Review (2024-09-12)

At it's in-camera meeting on September 12, 2024, the Canadian Board on Harmonized Construction Codes (CBHCC) approved by consensus the following list of PCFs to proceed to public review: 1823,1872,1950,2026,2056,2067

OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

- [\[2.8.2.11.\]](#) 2.8.2.11. ([1] 1)
[F11,F13,F12-OS1.2,OS1.5] [F01,F82-OS1.1] [F02,F82-OS1.2]
- [\[2.8.2.11.\]](#) 2.8.2.11. ([1] 1)
[F13,F12-OP1.2] [F01,F82-OP1.1] [F02,F82-OP1.2]
- [\[2.8.2.11.\]](#) 2.8.2.11. ([2] 2) no attributions
- [\[5.6.4.1.\]](#) 5.6.4.1. ([1] 1) no attributions
- [\[5.6.4.2.\]](#) 5.6.4.2. ([1] 1) [F02,F12-OS1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([1] 1) [F02,F12-OP1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([2] 2) [F02,F12-OS1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([2] 2) [F02,F12-OP1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([3] 3) [F02,F12-OS1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([3] 3) [F02,F12-OP1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([4] 4) [F02,F12-OS1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([4] 4) [F02,F12-OP1.2]
- [\[5.6.4.2.\]](#) 5.6.4.2. ([5] 5) no attributions
- [\[5.6.4.3.\]](#) -- ([1] --) [F02,F03-OS1.2]

Intent 1:

To limit the probability that, as a result of the construction or alteration of the building on a floor area, a fire would grow uncontrolled and spread to upper storeys of the building, which could lead to harm to persons.

[5.6.4.3.] -- ([1] --) [F05-OS1.5]

Intent 1:

To limit the probability that, as a result of the construction or alteration of the building on a floor area, a fire would grow uncontrolled and spread to upper storeys of the building, which could lead to persons being delayed in or impeded from moving to a safe place during an emergency.

[5.6.4.3.] -- ([1] --) [F02,F03-OP1.2]

Intent 1:

To limit the probability that, as a result of the construction or alteration of the building on a floor area, a fire would grow uncontrolled and spread to upper storeys of the building, which could lead to damage to the building.

[5.6.4.3.] -- ([1] --) (a)

Intent 1:

To direct Code users to Articles 5.6.4.4. to 5.6.4.7. for additional protection requirements for buildings of encapsulated mass timber construction undergoing construction, alteration or demolition operations.

[5.6.4.3.] -- ([1] --) (b)

Intent 1:

To clarify that a fire risk assessment is to be undertaken and measures identified to minimize the risks as part of the fire safety plan.

[5.6.4.4.] 5.6.4.3. ([1] 1) [F02-OS1.2]

[5.6.4.4.] 5.6.4.3. ([1] 1) [F02-OP1.2]

~~[5.6.4.4.] 5.6.4.3. ([1] 1) [F02-OP3.1]~~

~~Intent 1:~~

~~To limit the probability that mass timber elements will contribute to a fire, which could lead to the spread of fire from the building to an adjacent building or facility, which could lead to damage to adjacent buildings or facilities.~~

[5.6.4.4. 5.6.4.6.] 5.6.4.3. ([2 2] 2) no attributions

Intent 1:

To exempt ~~certain floors~~ the four uppermost storeys of the building under construction from the application of Sentence 5.6.4.3.(1), on the basis that it is impractical to ~~apply Sentence 5.6.4.3.(1) to all floors of a building during~~ install such protection on the uppermost storeys in the early stage of construction.

[5.6.4.4.] 5.6.4.3. ([3] 3) no attributions

Intent 1:

To ~~permit~~ exempt not less than 12.7 mm Type X gypsum board ~~to be used as the encapsulation material~~ from the application of Sentence 5.6.4.4.(1), if certain conditions are met, on the basis that its performance is considered equivalent to the encapsulation rating ~~required by Sentence 5.6.4.3.(1)~~.

[5.6.4.5.] -- (--) [F02-OS1.2]

Intent 1:

To limit the probability that mass timber elements will contribute to a fire, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.5.] -- (--) [F02-OP1.2]

Intent 1:

To limit the probability that mass timber elements will contribute to a fire, which could lead to the spread of fire, which could lead to damage to the building or facility.

[5.6.4.5.] -- (--) no attributions

Intent 1:

To exempt the underside of a mass timber floor assembly from the ~~requirements described in Clause 5.6.4.3.(1)(a)~~ installation of a protective encapsulation material or an assembly of materials providing an encapsulation rating, and to provide an exemption from the progressive sprinklering requirements of Article 5.6.4.6., if certain conditions are met, on the basis that the ~~performance~~ fire protection measures ~~are~~ is considered equivalent to the encapsulation rating ~~required by Sentence 5.6.4.3.(1)~~.

[5.6.4.5.] -- ([2] --) [F03-OS1.2]

Intent 1:

To limit the probability that a fire will spread through penetrations or openings through the floor assembly to upper storeys, which could lead to the spread of fire in the building, which could lead to harm to persons.

[5.6.4.5.] -- ([2] --) [F03-OP1.2]

Intent 1:

To limit the probability that a fire will spread through penetrations or openings through the floor assembly to upper storeys, which could lead to the spread of fire in the building, which could lead to damage to the building or facility.

[5.6.4.5.] -- ([3] --) [F03-OS1.2]

Intent 1:

To limit the probability that a fire will spread through the joints between the floor and an exterior wall, which could lead to the spread of fire to upper storeys, which could lead to harm to persons.

[5.6.4.5.] -- ([3] --) [F03-OP1.2]

Intent 1:

To limit the probability that a fire will spread through the joints between the floor and an exterior wall, which could lead to the spread of fire to upper storeys, which could lead to damage to the building or facility.

[5.6.4.5.] -- ([4] --) no attributions

Intent 1:

To direct Code users to Articles 5.6.1.6. and 5.6.4.2. for the installation of a standpipe system.

[5.6.4.5.] -- ([5] --) [F02-OS1.2]

Intent 1:

To limit the probability that a fire involving mass timber elements will grow uncontrolled, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.5.] -- ([5] --) [F02-OP1.2]

Intent 1:

To limit the probability that a fire involving mass timber elements will grow uncontrolled, which could lead to the spread of fire, which could lead to damage to the building or facility.

[5.6.4.5.] -- ([6] --) [F02-OS1.2]

Intent 1:

To limit the probability that a fire will grow unnoticed, which could ignite mass timber elements and contribute to a fire, which could lead to the spread of fire, which could

lead to harm to persons.

[5.6.4.5.] -- ([6] --) [F02-OP1.2]

Intent 1:

To limit the probability that a fire will grow unnoticed, which could ignite mass timber elements and contribute to a fire, which could lead to the spread of fire, which could lead to damage to the building or facility.

[5.6.4.5.] -- ([7] --) [F11-OS1.5]

Intent 1:

To limit the probability that a person employed to conduct a fire watch is not familiar with the fire safety plan, including the location of exits, which could lead to undue delays in notifying people in a fire emergency, which could lead to persons being delayed in or impeded from moving to a safe place during a fire emergency, which could lead to harm to persons.

[5.6.4.5.] -- ([8] --) no attributions

Intent 1:

To exempt the first four storeys of the building from the conditions of requirements described in Sentences (2) to (7) if certain conditions are met, until a certain amount of the building has been constructed on the basis that having the first four storeys unprotected does not pose an undue fire safety risk to persons or the building.

[5.6.4.6.] -- ([1] --) [F02-OS1.2]

Intent 1:

To limit the probability that mass timber elements will contribute to a fire, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.6.] -- ([1] --) [F02-OP1.2]

Intent 1:

To limit the probability that mass timber elements will contribute to a fire, which could lead to the spread of fire, which could lead to damage to the building or facility.

[5.6.4.6.] -- ([1] --) no attributions

Intent 1:

To exempt the certain mass timber elements from the installation of a protective encapsulation material or an assembly of materials providing an encapsulation rating, and to provide an exemption from the alternative protection measures listed in Article 5.6.4.5., if certain conditions are met, on the basis that the operation of an automatic

sprinkler system is considered equivalent to the encapsulation rating.

[5.6.4.6.] -- ([1] --) (b) [F03-OS1.2]

Intent 1:

To limit the probability that the automatic sprinkler system will not operate as intended in case of a fire, which could ignite the mass timber elements, which could contribute to a fire, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.6.] -- ([1] --) (b) [F03-OP1.2]

Intent 1:

To limit the probability that the automatic sprinkler system will not operate as intended in case of a fire, which could ignite the mass timber elements, which could contribute to a fire, which could lead to the spread of fire, which could lead to damage to the building or facility.

[5.6.4.4. 5.6.4.6.] 5.6.4.3. ([2 2] 2) no attributions

Intent 1:

To exempt ~~certain floors~~ the four uppermost storeys of the building under construction from the application of Sentence 5.6.4.3.(1), on the basis that it is impractical to ~~apply Sentence 5.6.4.3.(1) to all floors of a building~~ install such protection on the uppermost storeys in the early stage of ~~during~~ construction.

[5.6.4.7.] -- ([1] --) [F02-OS1.2]

Intent 1:

To limit the probability that the size of individual piles for indoor storage of combustible materials lead to an uncontrolled fire, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.7.] -- ([1] --) [F02-OP1.2]

Intent 1:

To limit the probability that the size of individual piles for indoor storage of combustible materials lead to an uncontrolled fire, which could lead to the spread of fire, which could lead to damage to the building.

[5.6.4.7.] -- ([2] --) (a) [F02,F03-OP1.2]

Intent 1:

To limit the probability that a fire involving an individual pile of stored combustible materials will spread between storeys, which could lead to damage to the building.

[5.6.4.7.] -- ([2] --) (c) [F02,F03-OS1.2]Intent 1:

To limit the probability that a fire involving an individual pile of stored combustible materials will spread to other piles, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.7.] -- ([2] --) (b) [F05-OS1.5]Intent 1:

To limit the probability that a fire involving an individual pile of stored combustible materials will impede access to an exit in case of a fire, which could lead to persons being delayed in or impeded from moving to a safe place during a fire emergency, which could lead to harm to persons.

[5.6.4.7.] -- ([2] --) (d) [F01-OS1.1]Intent 1:

To limit the probability that an individual pile of stored combustible materials will be exposed to ignition sources, which could lead to ignition of the combustible materials, which could lead to a fire, which could lead to harm to persons.

[5.6.4.7.] -- ([2] --) (d) [F01-OP1.1]Intent 1:

To limit the probability that an individual pile of stored combustible materials will be exposed to ignition sources, which could lead to ignition of the combustible materials, which could lead to a fire, which could lead to damage to the building.

[5.6.4.7.] -- ([3] --) [F12-OS1.2]Intent 1:

To limit the probability that firefighting operations will be delayed or ineffective on a fire involving a pile of stored combustible materials, which could lead to the spread of fire, which could lead to harm to persons.

[5.6.4.7.] -- ([3] --) [F12-OP1.2]Intent 1:

To limit the probability that firefighting operations will be delayed or ineffective on a fire involving a pile of stored combustible materials, which could lead to the spread of fire, which could lead to damage to the building.

PCF 1872 – nfc20_divb_02.08.02.11.

Commenter: Michael Schmeida
Gypsum Association

Comment: Do not support

69918

No Supporting Document

The Gypsum Association maintains its opposition to proposed change 1872 of the National Fire Code of Canada. This proposal, related extensively to PCF 1870 with justification via reference to said proposal, is flawed in its reasoning for relaxation of the encapsulation need while a building is under construction. We are opposed for the reasons stated once again below:

The rationale for the proposed code change is focused on changes to adhesive performance per ANSI/APA PRG 320-2018, "Standard for Performance-Rated Cross-Laminated Timber" and results of NRC and RISE testing. We agree that the improvement in adhesive properties improves the performance of CLT by limiting the introduction of additional fuel source. We also agree that permanent firestopping must be required as any part of a comprehensive fire barrier system. But there are many other things to consider relative to eliminating the encapsulation requirements.

The NRC tests were, "relatively small (4.5 m × 2.4 m × 2.7 m tall) due to the test laboratory constraints." This might be good for radiative heat conclusions, but not sufficient to determine if, "increased use of exposed ceilings would not result in an undue fire risk." There have been additional tests by ARUP in what they call the Code Red series, see [Impact of partial encapsulation on the fire dynamics of an open-plan compartment with exposed timber ceiling and columns: CodeRed #04 \(wiley.com\)](#), which are not discussed in the rationale to 1870. These were large scale tests with internal compartment dimensions of 10.27 m in width, 34.27 m in length, and 3.1 m in height. Some of the conclusions of these tests, focusing specifically on the 100% exposed ceiling versus a 50% exposed ceiling are:

- Peak heat release rate was approximately 100 MW, a 17% increase with the fully exposed ceiling versus the partially encapsulated ceiling.
- Flame heights out the windows were approximately 1.5 m for the partially exposed ceiling and 2.5 – 3 m for the 100% exposed ceiling.
- Average char depth profile of the glulam columns after the end of the fire were significantly more for the fully exposed ceiling condition.
- Flame spread across the ceiling in advance of the fuel source is reduced with increased encapsulation.

In summary, this code change, particularly the sections relative to reducing encapsulation, can increase the severity of fire and endanger occupants after occupancy and therefore not requiring it during construction is not a cost or construction savings. As per Note A.3.1.6.4 the primary objective of encapsulating mass timber elements is to limit the probability that these elements will significantly contribute to fire spread and fire duration in the event of a fire. In addition there have been many cases where buildings under construction have been more susceptible to hotworks fire spread or vandalism and caution is warranted. [Fire Protection During Construction in Wood Buildings \(buildingcode.blog\)](#)

In summary, this code change can increase the severity of fire and therefore is not acceptable.

Possible Committee Action:

In reviewing this comment, the NMCC should note that the Standing Committee on Fire Protection (SC-FP) considered the points raised by the commenter at its 2020-16 meeting, through its review of a similar comment (#67943) from the previous public review.

The SC-FP remained comfortable with the technical rationale for the proposed changes, as the Task Group on EMTC reported that its research was sufficiently varied and considered more severe fire scenarios than those in the Code Red Series Test #4. If the NMCC agrees, no action need be taken on this comment.

Committee Action:

Commenter:	James Hook CASA	
Comment:	Do not support	69964 See supporting document

Subject: CASA Comment on Proposed Change NFC **-5.6.4.3. Protective Encapsulation #1872**

I am writing on behalf of CASA to express opposition to the proposed change #1872 to the National Building Code & National Fire Code 2025. This proposal seeks to revise the fire suppression guidelines by mandating both automatic and manual fire suppression methods as outlined in Table 2.2 of the justification for the change (snip below). The proposer has based their suggestion on the NFPA 550 Fire Safety Concept Tree, yet there are critical misapplications of this framework that undermine the proposal's validity. (SEE Emailed PDF.)

Misapplication of NFPA 550 Fire Safety Concept Tree

The proposer has not correctly applied two key diagrams within the NFPA 550:

1. Figure 4.2.1(a) - "OR" Gate: This figure (snip below), represented by a circle with a "+" sign, indicates that any of the concepts below it can individually result in the concept above it. The proposal mistakenly suggests that both automatic and manual suppression are required together, rather than independently as permitted by the "OR" gate logic of this figure. (SEE Emailed PDF.)
2. Figure 4.2.2(a) - "AND" Gate: This figure (snip below), represented by a circle with a dot, indicates the necessity of all underlying concepts to achieve the overlying concept.

(SEE Emailed PDF.)

The proposer incorrectly interprets the need for an "AND" relationship between the suppression methods when an "OR" relationship suffices, thus making the requirement for both types of suppression redundant.

Redundancy and Feasibility Concerns

According to Figure 4.5.1 of NFPA 550-2022 (snip below), "Supress fire" concept can be accomplished either through "Automatically suppress fire" or "Manually supress fire". The current NBCC section 5.6.4.2 already achieves compliance by providing temporary standpipes for manual suppression. Hence, the addition of mandatory automatic suppression is not only redundant but also faces feasibility issues such as provided in next paragraph. (SEE Emailed PDF.)

Concerns & impracticality of proposed changes

CASA does not support the proposed change #1872. CASA is concerned with the proposal of utilizing the sprinkler system as an alternate method of not requiring a protective encapsulation material or assembly of materials during the construction phase of the building. In many cases an automatic water supply is not commissioned and accepted until the later stages of the construction timeline. The NFPA 13 Standard does not provided guidance on utilizing an automatic sprinkler system for the protection of a building during the construction phase. Buildings of this nature are built at an accelerated pace which out rate the timeline that is required to do functional testing

and commissioning of these systems. CASA and our Technical committee have reviewed the proposed change for the use of sprinklers as an interim measure while the building is under construction and while this is seemingly viable there are many underlying factors that make this option unreasonable to implement, including:

Timing – For building of this construction floors and be erected in just a few days where a sprinkler system can not be installed nearly as quick do to testing and in some cases drying time for products. This inherently will put the sprinkler industry in direct delays of construction.

Weather – With most of Canada having the potential for freezing temperatures for 5 months of the year this would require the building to be enclosed and heated or would require the sprinkler system to be a dry type. By the need of a dry system further cost will be incurred through the requirements of air compressors. This will also require the stairwell to be heated and a heated enclosure provide for the valves as they are to large to fit within the stairwell.

Labour – Either one of these approaches would lead to increased project cost through the requirements of installing two systems or having to revamp a system that was not meant for the end use. Furthermore, to be able to encapsulate the structure the trades would have to work around the installed sprinkler system as the system must be maintained during construction.

Single use products & environmental impact– Once a sprinkler is installed it can not be reused per the standard due to the chance of damage. Once the temporary system is removed or altered all the sprinklers would be disposed of permanently.

Supporting systems – As previously stated if the building does not have adequate water pressure to meet the demands of a sprinkler system designed for an Ordinary Hazard Group 2 classification a fire pump would need to be installed, tested, be equipped with power and connected to a fire alarm system to operate correctly. Power for air compressors, and heat.

Overdesign – A Building under construction would require a sprinkler system that is designed to an Ordinary Hazard Group 2 (as noted in the A-5.6.4.3). To achieve this it would require either a separate sprinkler system for the time of construction or an extremely over designed system (meaning potentially significantly larger sprinkler equipment and pipe, pumps added where not required for future building use or oversized pumps, etc.) to then be repurposed after construction.

Conclusion

With the current focus across Canada on housing affordability we cannot support these changes. The NFC has not clearly outlined design requirements nor a sustainable path forward for all trades involved. Due to the challenges in the feasibility of install, extra cost of materials, the timing of required infrastructure and labour this change should not be further pursued.

In light of the misapplication and redundancy identified, I urge the committee to consider these points and reject the proposed change 1872. Preserving the current provisions ensures compliance with NFPA standards without incurring unnecessary costs or complexity.

Thank you for considering this perspective. CASA is willing to provide further details if needed and look forward to the committee's discernment in this matter.

Possible Committee Action:

Comment 1 - Reference to Figure 4.3 in NFPA 550

In reviewing this comment, the NMCC should note that proposed Articles 5.6.4.5. and 5.6.4.6. each provide an alternative compliance path that can be applied independently (i.e. not combined) in lieu of

the protective encapsulation requirements. Furthermore, proposed Clause 5.6.4.2.(1)(b) allows the performance option of a fire risk assessment being conducted to determine the level of fire protection required on the site. If the NMCC agrees, no action need be taken on this comment.

Comment 2 - Article 5.6.4.6.

In reviewing this portion of the comment, the NMCC should note that the Standing Committee on Fire Protection (SC-FP) considered the points raised by the commenter at its 2020-12 and 2020-16 meetings, through its review of a similar comment (#68069) from the previous public review. The SC-FP remained comfortable with proposed explanatory Note A-5.6.4.6.(1)(a) clarifying the intended application of NFPA 13, and reiterated that the proposed option of progressively installing an active sprinkler system is not mandatory. If the NMCC agrees, no action need be taken on this comment.

Committee Action:

Commenter:	Julia Dalphy National Research Council of Canada (NRC)	
Comment:	Support with modifications	69904 No Supporting Document

This comment pertains only to one item: in the Justification section, it is recommended to include a copy of Figure 4.3, "Top Gates of the Fire Safety Concepts Tree with Selected Lower-Tiered Gates", from NFPA 550 (2022 edition) on the basis that Codes Canada has now received the copyright permissions required to include it as originally requested by the TG-EMTC.

Possible Committee Action:

Editorial. The commenter has raised a good point.

If the NMCC agrees to proceed as suggested by the commenter, this could be incorporated as an editorial revision to the Justification section.

Committee Action:

Commenter:	Vusal Ibrahimli Canadian Wood Council	
Comment:	Support with modifications	69948 See supporting document

Please see our supporting documentation in the email correspondence.

Possible Committee Action:

Comment 1 - Justification

Editorial. The commenter has raised a good point.

If the NMCC agrees to proceed as suggested by the commenter, this could be incorporated as an editorial revision to the Justification section.

Comment 2 - Article 2.8.2.11.

The commenter has provided insufficient information to warrant revision or withdrawal of the proposed

requirement. If the NMCC agrees, no action need be taken on this comment.

Comment 3 - Sentence 5.6.4.3.(1) and explanatory Note A-5.6.4.3.

Sentence 5.6.4.3.(1): In reviewing this comment, the NMCC should note that the proposed revisions are grammatical and editorial in nature. The Sentence structure was revised by NRC’s editors ahead of the fall 2024 public review period.

If the NMCC agrees to proceed as suggested by the commenter, this could be incorporated as an editorial revision to proposed Sentence 5.6.4.3.(1).

Note A-5.6.4.3.: Editorial. The commenter has raised a good point.

The proposed measures listed in Articles 5.6.4.3. to 5.6.4.7. are not intended to be applied all together since Articles 5.6.4.5. and 5.6.4.6. provide alternative protection measures to the general requirement outlined in Article 5.6.4.4.

If the NMCC agrees to proceed as suggested by the commenter, this could be incorporated as an editorial revision to proposed explanatory Note A-5.6.4.3.

Comment 4 - Article 5.6.4.5. and explanatory Note A-5.6.4.5.(8)

Article 5.6.4.5.: The commenter has provided insufficient information to warrant revision or withdrawal of the proposed requirement. If the NMCC agrees, no action need be taken on this comment.

Sentence 5.6.4.5.(1): Editorial. The commenter has raised a good point.

If the NMCC agrees to proceed as suggested by the commenter, this could be incorporated as an editorial revision to proposed Sentence 5.6.4.5.(1).

Sentences 5.6.4.5.(4) and (5): The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement. If the NMCC agrees, no action need be taken on this comment.

Additionally, it should be noted that keeping two distinct Sentences prevents the use of Subclauses (i) and (ii) as proposed.

Note A-5.6.4.5.(8): The commenter has provided insufficient information to warrant revision or withdrawal of the proposed requirement. If the NMCC agrees, no action need be taken on this comment.

Comment 5 - Article 5.6.4.6.

The commenter has provided insufficient information to warrant revision or withdrawal of the proposed requirement. If the NMCC agrees, no action need be taken on this comment.

Comment 6 - Article 5.6.4.7. and explanatory Note A-5.6.4.7.

The commenter has provided insufficient information to warrant revision or withdrawal of the proposed requirement. If the NMCC agrees, no action need be taken on this comment.

Committee Action:

Commenter:	Yosh Imahori Toronto Fire Services	
Comment:	Support with modifications	69962
		No Supporting Document

Proposed Change 1872

Comments for Article 2.8.2.11. – Construction and Demolition Sites

Comment 1:

2.8.2.11.[1][a] the designation and organization of site personnel to carry out fire safety duties, including a fire watch service if applicable

Any fire that occurs at a construction site of a wood building could result in a serious loss of both property and life. On site personnel will not be able to suppress a fire without substantial training and access to appropriate equipment. During construction, there should be greater involvement of the local fire department that may include weekly on-site visits to ensure that progress in the construction of the building continues to be mindful of fire safety and accessibility of the fire department. In absence of fire department staff, the on-site staff must be appropriately trained in the evaluation of fire safety on the construction site. Evaluation of potential fires has been based upon test structures not in a construction setting where additional combustible materials would be present and most certainly impact exposed wood construction more severely than tests conducted in a lab scenario.

Comment 2:

2.8.2.11.[1] Except as required in Sentence (2), prior to the commencement of construction, alteration or demolition operations, a fire safety plan shall be prepared for the site that includes:

It is important that site personnel are appropriately trained in fire safety. Any fire safety training of competent personnel must be accompanied by records and be available on site for inspection. An additional clause, should be included within Sentence [1].

Comment 3:

2.8.2.11.[1][b] the emergency procedures to be followed in the event of a fire, including

[i] initiating a fire warning,

[ii] notifying the fire department,

Notification of on-site personnel and the quick arrival of the fire department is paramount for wood building construction sites. The progression of a fire will be more rapid than in steel/concrete construction. Even if the structure itself is not compromised, there is an extremely high risk of injury or death of construction personnel due to fire and smoke. The code should be more specific on how a fire warning or notifying the fire department is to be completed. (e.g., a monitored fire alarm system, active and in-place during all phases of construction)

Comment 4:

2.8.2.11.[1][b][iv] confining, controlling and extinguishing the fire,

This subclause implies that construction personnel are to have a very specific skill set in the managing of fires. Most fire departments recommend that non-firefighters not engage in firefighting unless the fire is quite small. Otherwise, the risk of injury is very high.

Comment 5:

2.8.2.11.[1][c] measures for controlling fire hazards in and around the building (see Note

A-2.8.2.11.(1)(c) PROPOSED CHANGE A-2.8.2.11.(1)(c)), and

Note A-2.8.2.11.(1)(c) is not included in the package for comment. A detailed description of measures must be included in this note. Involvement of construction safety and firefighting professional should be tasked with the development of this note.

Comments for Article 5.6.4.3. - 2025

Comment 1:

5.6.4.3.[2][a] penetrations or openings through the floor assembly on any storey are

[i] protected with a firestop conforming to Sentence 3.1.9.1.(1) of Division B of the NBC,

[ii] filled with noncombustible insulation that is supported in place, or

[iii] protected, from the top of the floor assembly, with a single layer of not less than 12.7 mm thick Type X gypsum board mechanically fastened to not less than 12.7 mm thick plywood or OSB with the gypsum board facing the penetration

(see Note A-5.6.4.3.(2)(a)-2025),

5.6.4.3.[2][b] joints located in a horizontal plane between the floor and an exterior wall on any storey are

[i] protected with a firestop conforming to Sentence 3.1.8.3.(4) of Division B of the NBC, or

[ii] filled with noncombustible insulation that is supported in place,

Fires can spread via window openings. During construction there is a distinct possibility that windows may not be installed. Fires can also spread from a balcony to an upper level. (Grenfell fire in London, UK in 2017, 235 Gosford Blvd, Toronto in 2019)

Comment 2:

5.6.4.3.[d] a fire watch is conducted on all storeys

[i] at intervals of not more than 1 h when workers are present in the building, and

[ii] not less than 1 h after workers leave the building

Clause (ii) does not provide for circumstances where a smouldering fire ignites into a flaming fire after a period of 1 hour. Opportunities to discover a smouldering fire are lost which may result in the loss of an entire building.

Comment 3:

5.6.4.3.[5] The first four storeys need not conform to the conditions of Sentence (2)-2025 during construction, until the ceiling assembly of the fifth storey is installed. (See Note A-5.6.4.3.(5)-2025.)

In the event of a fire, even a 4 storey fire would be extremely dangerous and cost implications would be enormous in comparison to additional protective measures. (Wood construction, 4 storey, Kingston, ON in 2013)

Comments for 5.6.4.5. - Alternative Protection Measures

Comment 1:

[4] A standpipe system shall be installed in accordance with Articles 5.6.1.6. and 5.6.4.2.,

[5] The standpipe system described in Sentence (4) shall be and is provided with hose stations for occupant use that are equipped with a hose line having

[a] a diameter of either 25 mm or 38 mm, and

[b] a length sufficient to cover all parts of the storey with a hose stream of not less than 5 m.

Sentence [7] does identify training for use of fire extinguishing equipment, the hose station should be marked clearly as, "Hose use is for trained personnel only"

Comments for 5.6.4.7. - Indoor Storage of Combustible Materials

Comment 1:

[3] A clearance of not less than 1.5 m shall be maintained between the top of an individual pile of combustible materials described in Sentence (1) and the underside of the lowest plane of any beam, floor or roof assembly.

Is the 1.5 metre clearance derived from a specific standard? Should there not be sprinkler coverage for the storage pile.

Possible Committee Action:

Comment 1 - Article 2.8.2.11.

In reviewing the portions of the comment pertaining to the existing provisions in Article 2.8.2.11., the NMCC should note that these are not comments on the proposed change.

Clause 2.8.2.11.(1)(a): In reviewing this comment, the NMCC should note that requiring on-site visits by the local fire department falls outside the scope of the National Model Codes. If the NMCC agrees, no action need be taken on this comment.

Sentence 2.8.2.11.(1): In reviewing this comment, the NMCC should note that training requirement of people that are given responsibility for fire safety is addressed in Section 2.8. If the NMCC agrees, no action need be taken on this comment.

Clause 2.8.2.11.(1)(b): In reviewing this comment, the NMCC should note that the National Model Codes are not specific on the listed emergency procedures to reflect the variability of the construction sites. If the NMCC agrees, no action need be taken on this comment.

Subclause 2.8.2.11.(1)(b)(iv): In reviewing this comment, the NMCC should note that the proposed emergency procedures are not intended to include firefighting practices; but, limited to the potential use of portable fire extinguishers for example. If the NMCC agrees, no action need be taken on this comment.

Note A-2.8.2.11.(1)(c): In reviewing this comment, the NMCC should note that this is a reference to the current explanatory Note without revision. If the NMCC agrees, no action need be taken on this comment.

Comment 2 - Article 5.6.4.5.

Clauses 5.6.4.5.(2)(a) and (b): The commenter has provided insufficient information to warrant revision or withdrawal of the proposed requirement. If the NMCC agrees, no action need be taken on this comment.

Article 5.6.4.5.(6): The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement.

In reviewing this portion of the comment, the NMCC should note that the Standing Committee on Fire Protection (SC-FP) considered the frequency of fire watch when workers are not present in a building at its 2020-16 meeting. The SC-FP was comfortable with the required fire watch tour occurring 1-2 hours after work wraps up for the day and acknowledged that the construction fire safety plan should also be considered (language was added into proposed explanatory Note A-5.6.4.5.(7) to this effect, too).

If the NMCC agrees, no action need be taken on this comment.

Sentence 5.6.4.5.(8): The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement, as outlined in the Justification section of the rationale (see page 7). If the NMCC agrees, no action need be taken on this comment.

Sentences 5.6.4.5.(4) and (5): In reviewing this comment, the NMCC should note that Article 2.8.2.11. addresses the concerns raised by the commenter. If the NMCC agrees, no action need be taken on this comment.

Comment 3 - Sentence 5.6.4.7.(3)

The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement as found in the Justification section of the rationale (see second last paragraph). If the NMCC agrees, no action need be taken on this comment.

Committee Action:

Commenter:	John Buldoc Jensen Hughes	
Comment:	Support with modifications	69976 No Supporting Document

It is unclear if the provision in Clause 5.6.4.3.(2)(c)(i) to provide 38 mm (1.5 in.) hose stations is intended for Fire Department use (only) or if this is in fact a measure intended for use by site personnel in a fire emergency. We anticipate the feedback from responding Fire Departments will be that they would not use 38 mm (1.5 in.) and would only use their own 64 mm (2.5 in.) diameter hoses, in which case removing the hose and coupler at the hose station would be an additional step for the responding Fire Department.

We understand that Note A-5.6.4.5.(7) mentions that the fire watch personnel should be trained in the use of fire extinguishing equipment, but we are not clear if this is an intention that the 38 mm (1.5 in.) hose stations be used by the fire watch personnel. Assigning fire watch personnel with duties related to extinguishing fires using hose stations may have implications for Provincial bodies that regulate workplace safety. Note that NFC Sentence 5.6.4.2.(3) also currently allows a standpipe system during construction to be maintained dry, which may be conflicting with the approach to provide hose stations for more immediate use.

We support the concept in Article 5.6.4.6 "Progressive Sprinklering". However, we are also aware that feedback may come from the industry of sprinkler designers and sprinkler installers, that the NFPA 13 sprinkler standard they are designing and installing to do not directly address the associated hazard of an EMTC construction site. To address those industry concerns, it would help to include additional commentary or changes to the code text that could address directly that the design's hazard classification used for the "finished building" would be appropriate for compliance with these Fire Code requirements during construction. For example, if the design for a residential area is a light-hazard classification in NFPA 13, the Fire Code requirements would not stipulate a re-analysis or increase to the

hazard classification to address the course of construction phase, when the contractor elects to apply the provisions associated with Article 5.6.4.6 "Progressive Sprinklering".

The maximum 2.4 m length for individual piles in Sentence 5.6.4.7.(1) is overly restrictive. Consideration needs to be provided for items commonly stored which exceed this length, including wood studs, cabinets, carpet rolls. Additionally, the text of these requirements may also need to provide necessary relaxations for possible storage in a basement parkade or other "noncombustible" areas of a project which includes EMTC construction.

Further edits are required to the wording in Clause 5.6.4.5.(6)(b). The proposed text currently reads "not less than 1 h and no more than 2 h after daily work is complete". The first part which says "not less than 1 h and" needs to be deleted. Clause 5.6.4.5.(6)(b) would be acceptable if it were to only say "no more than 2 h after daily work is complete."

Possible Committee Action:

Comment 1 - Article 5.6.4.5.

Sentence 5.6.4.5.(5): In reviewing this comment, the NMCC should note that the intent behind the requirement to provide hose stations during construction is for use by trained personal in conformance with Subsection 2.8.2. and more specifically to Article 2.8.2.11. If the NMCC agrees, no action need be taken on this comment.

Comment 2 - Article 5.6.4.6.

In reviewing this comment, the NMCC should note that the design of a sprinkler system using a control design approach outlined in NFPA 13 would require to classify the occupancy, which could be derived from the occupancy classification of the EMTC building. If the NMCC agrees, no action need be taken on this comment.

Comment 3 - Article 5.6.4.7.

The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement as outlined in the Justification section of the rationale (see page 8). If the NMCC agrees, no action need be taken on this comment.

Comment 4 - Clause 5.6.4.5.(6)(b)

The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement.

In reviewing this portion of the comment, the NMCC should note that the Standing Committee on Fire Protection (SC-FP) considered the frequency of fire watch when workers are not present in the building at its 2020-16 meeting. The SC-FP was comfortable with the required fire watch tour occurring 1-2 hours after work wraps up for the day, so that it is not occurring immediately after that day's work, nor immediately before work starts back up on a subsequent day.

If the NMCC agrees, no action need be taken on this comment.

Committee Action:

Commenter: Kevan Jess
Canadian Association of Fire Chiefs

Comment: Support with modifications

69995

No Supporting Document

These proposed revisions from the 2023 iteration of this CCR do make some improvements related to the requirements for fire watch and some editorial modifications for clarity; However, the proposed alternatives to full encapsulation during construction still rely on a suite of "unproven possibilities" that will require increased oversight and expense to the AHJ in fire and building, further burdening taxpayers and benefitting developers.

As well the lack of fire protection for almost five full floors of the building during construction remains a significant concern.

The potential of this construction to occur in a community lacking the resources to address and deal with a fire still remains problematic as the National Model Codes only make reference to the capability and capacity of firefighting forces in the non-mandatory Notes in Division B, A-3 of the NBCC.

As such the CAFC's support for the proposal is muted recognizing progress made but still concerned about major gaps.

Concern also remains about other prior proposals to consolidate Fire Safety Planning provisions and remove the reference for Fire Safety Plans in topic specific areas of the NBCC.

Possible Committee Action:

Comment 1 – Oversight and expense to the AHJ

The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement.

In reviewing this portion of the comment, the NMCC should note that the Standing Committee on Fire Protection (SC-FP) considered the points raised by the commenter at its 2020-16 meeting, through its review of a similar comment (#68017) from the previous public review. As a result, PCF 1872 was substantially revised to:

- incorporate a specific focus on construction fire safety (through its rationale),
- improve the Problem statement,
- reference the NRC's testing in the rationale to provide a technical basis,
- outline the risk context and potential consequences more clearly, and
- address practical factors in construction fire safety planning.

Furthermore, as reiterated in the Impact Analysis, because the existing compliance option (for protective encapsulation) remains in the NFC, "this proposed change would not entail any additional costs should that option be used".

If the NMCC agrees, no action need be taken on this portion of the comment.

Comment 2 – Sentence 5.6.4.5.(8)

The issue raised by the commenter was given due consideration by the Committee in developing the proposed requirement, as outlined in the Justification section of the rationale (see page 7). If the NMCC agrees, no action need be taken on this comment.

Comment 3 – Other prior proposals re: Fire Safety Planning provisions

In reviewing the portion of the comment pertaining to other prior proposals about fire safety planning

provisions in the National Model Codes, the NMCC should note that these are not comments on the proposed change. If the NMCC agrees, no action need be taken on this comment.

Committee Action:

Commenter:	Melisa Audet Ontario Association of Architects	
Comment:	Support with comments	69936 No Supporting Document

The OAA supports the measures noted in this Fire Code change and the efforts to align the Building and Fire Codes.

These requirements are likely going to increase the need for additional safety monitoring during construction. To minimize jurisdictional confusion between Fire Officials and Building Officials, education may be beneficial, or a mechanism could be developed to review on a case-by-case basis. Care should be taken to avoid inappropriate extension of responsibility to parties not involved in the contractor's means and methods of construction.

Possible Committee Action:

The NMCC has acknowledged the commenter's support for and comments on this proposed change.

It should be noted that the education and definition of responsibilities between Fire and Building Officials fall under the realm of the provinces and territories (i.e. outside the scope of the National Model Codes). As such, no action need be taken on this comment.

Committee Action:

Commenter:	Keith Calder	
Comment:	Support	69892 No Supporting Document

Possible Committee Action:

Support acknowledged.

Committee Action:

Support acknowledged.

Commenter:	Matt Zabloski City of Calgary	
Comment:	Support	69915 No Supporting Document

Possible Committee Action:

Support acknowledged.

Committee Action:

Support acknowledged.

Commenter: Joe Rogers
Department of Public Works

Comment: Support 69920
No Supporting Document

Possible Committee Action:

Support acknowledged.

Committee Action:

Support acknowledged.

Commenter: Terry Kowal
CHBA BC

Comment: Support 69968
No Supporting Document

Possible Committee Action:

Support acknowledged.

Committee Action:

Support acknowledged.

Tiogo Madoumting, Debora

From: James Hook <jhook@casa-firesprinkler.org>
Sent: December 17, 2024 9:23 AM
To: CONST Codes Public Review/Examen public CONST (NRC/CNRC)
Subject: #1872 (NFC) Revision Requirements for EMTC During Construction - NOT in Support

Categories: Supporting Document

*****Attention*** This email originated from outside of the NRC. ***Attention*** Ce courriel provient de l'extérieur du CNRC.**

Subject: CASA Comment on Proposed Change NFC -**5.6.4.3. Protective Encapsulation #1872**

I am writing on behalf of CASA to express opposition to the proposed change #1872 to the National Building Code & National Fire Code 2025. This proposal seeks to revise the fire suppression guidelines by mandating both automatic and manual fire suppression methods as outlined in Table 2.2 of the justification for the change (snip below). The proposer has based their suggestion on the NFPA 550 Fire Safety Concept Tree, yet there are critical misapplications of this framework that undermine the proposal's validity.

Control Heat Energy Sources	5.6.1.7. Hot Surface Applications 5.6.1.8. Ignition Sources 5.6.1.9. Building Services at Demolition Sites 5.6.1.14. Watch 5.6.1.15. Smoking Restrictions 5.6.3.2. Smoking Restrictions (MR+MT) 5.6.3.8. Site Security (MR+MT)
Control Source-Fuel Interactions	5.6.1.3. Fire Safety Plan 5.6.1.8. Ignition Sources 5.6.1.10. Fuel Supply Installation 5.6.1.14. Watch 5.6.1.18. Storage and Use of Dangerous Goods 5.6.1.19. Temporary Enclosures 5.6.3.8. Site Security (MR+MT)
Control Fuel	5.6.1.18. Storage and Use of Dangerous Goods 5.6.1.20. Disposal of Combustible Refuse 5.6.3.4. Disposal of Combustible Refuse (MR+MT) 5.6.4.7.-2025 Indoor Storage of Combustible Materials (MT-p)
2. Manage Fire Impact	
Manage Fire — Control Combustion Process	5.6.4.7.-2025 Indoor Storage of Combustible Materials (MT-p)
Manage Fire — Suppress Fire	5.6.1.4. Access for Firefighting 5.6.1.5. Portable Extinguishers 5.6.1.6. Standpipe Systems 5.6.3.3. Site Identification (MR+MT) 5.6.3.5. Water Supply (MR+MT) 5.6.3.6. Hydrant Access (MR+MT) 5.6.4.2. Standpipe Installation (MT-e) 5.6.4.6.-2025 Progressive Sprinklering (MT-p)
Manage Fire — Control Fire by Construction	5.6.4.4.-2025 Protective Encapsulation (MT-e) 5.6.4.5.-2025 Alternative Protection Measures (MT-p)
Manage Exposed — Limit Amount Exposed	5.6.1.2. Measures to Mitigate Fire Spread to Adjacent Buildings
Manage Exposed — Safeguard Exposed	5.6.1.12. Fire Separations in Partly Occupied Buildings 5.6.1.13. Protection during Shutdown 5.6.1.16. Provision for Egress 5.6.1.17. Fire Warning 5.6.3.7. Construction Access (MR+MT) 5.6.4.3.-2025 Measures to Reduce the Risk of Fire Spread Between Storeys (MT-p)

NFPA550-22, Fig 4.5.1 - "Manage fire" Suppress fire -->
Automatically suppress fire (Progressive Sprinklering)
"OR"
Manually suppress fire (Temporary Standpipe)

Note to Table 2:

- (1) The abbreviations used in the table have the following meanings:
MR+MT = midrise and mass timber
MT-e = mass timber — existing
MT-p = mass timber — proposed

Last modified: 2024-10-16
Page: 5/25

Misapplication of NFPA 550 Fire Safety Concept Tree

The proposer has not correctly applied two key diagrams within the NFPA 550:

1. Figure 4.2.1(a) - "OR" Gate: This figure (snip below), represented by a circle with a "+" sign, indicates that any of the concepts below it can individually result in the concept above it. The proposal mistakenly suggests that both automatic and manual suppression are required together, rather than independently as permitted by the "OR" gate logic of this figure.

Figure 4.2.1(a) Example of an "Or" Gate.

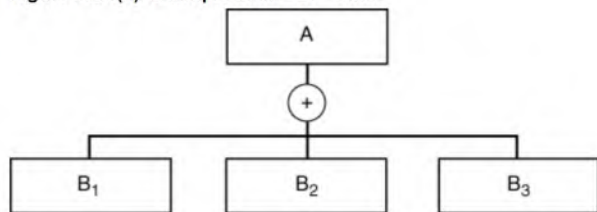
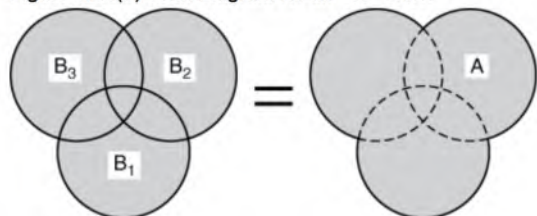


Figure 4.2.1(b) Venn Diagram for an "Or" Gate.



2. Figure 4.2.2(a) - "AND" Gate: This figure (snip below), represented by a circle with a dot, indicates the necessity of all underlying concepts to achieve the overlying concept.

Figure 4.2.2(a) Example of an "And" Gate.

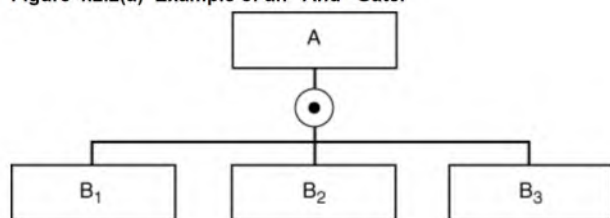
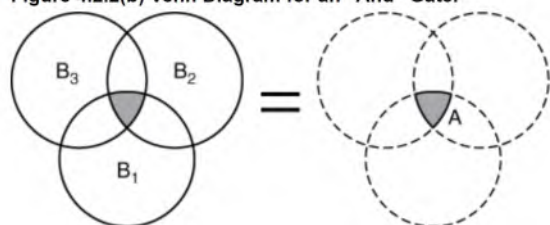


Figure 4.2.2(b) Venn Diagram for an "And" Gate.

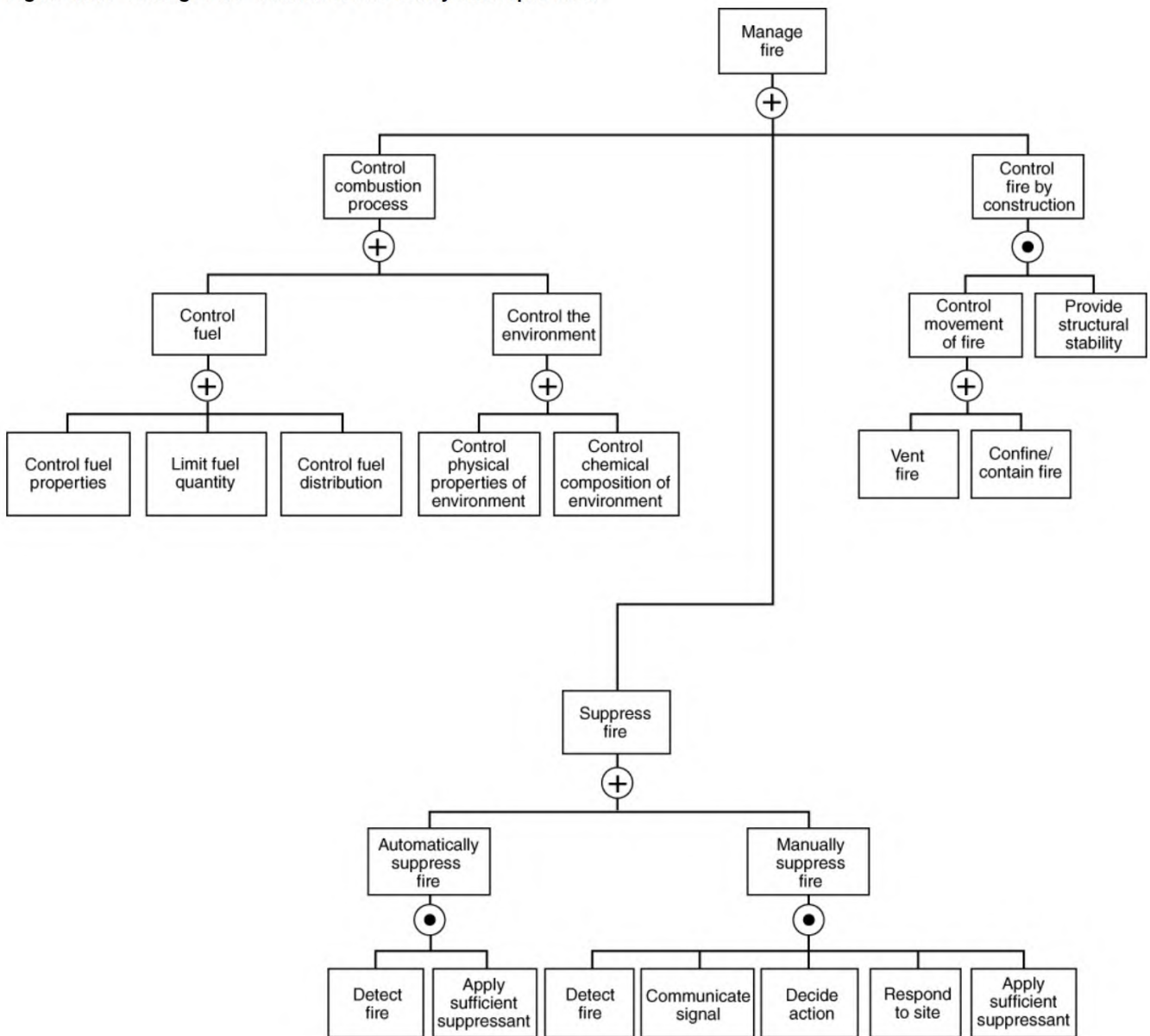


The proposer incorrectly interprets the need for an "AND" relationship between the suppression methods when an "OR" relationship suffices, thus making the requirement for both types of suppression redundant.

Redundancy and Feasibility Concerns

According to Figure 4.5.1 of NFPA 550-2022 (snip below), "Supress fire" concept can be accomplished either through "Automatically suppress fire" or "Manually suppress fire". The current NBCC section 5.6.4.2 already achieves compliance by providing temporary standpipes for manual suppression. Hence, the addition of mandatory automatic suppression is not only redundant but also faces feasibility issues such as provided in next paragraph.

Figure 4.5.1 “Manage Fire” Branch of Fire Safety Concepts Tree.



Concerns & impracticality of proposed changes

CASA does not support the proposed change #1872. CASA is concerned with the proposal of utilizing the sprinkler system as an alternate method of not requiring a protective encapsulation material or assembly of materials during the construction phase of the building. In many cases an automatic water supply is not commissioned and accepted until the later stages of the construction timeline. The NFPA 13 Standard does not provided guidance on utilizing an automatic sprinkler system for the protection of a building during the construction phase. Buildings of this nature are built at an accelerated pace which out rate the timeline that is required to do functional testing and commissioning of these systems. CASA and our Technical committee have reviewed the proposed change for the use of sprinklers as an interim measure while the building is under construction and while this is seemingly viable there are many underlying factors that make this option unreasonable to implement, including:

Timing – For building of this construction floors and be erected in just a few days where a sprinkler system can not be installed nearly as quick do to testing and in some cases drying time for products. This inherently will put the sprinkler industry in direct delays of construction.

Weather – With most of Canada having the potential for freezing temperatures for 5 months of the year this would require the building to be enclosed and heated or would require the sprinkler system to be a dry type. By the need of a dry system further cost will be incurred through the requirements of air compressors. This will also require the stairwell to be heated and a heated enclosure provide for the valves as they are to large to fit within the stairwell.

Labour – Either one of these approaches would lead to increased project cost through the requirements of installing two systems or having to revamp a system that was not meant for the end use. Furthermore, to be able to encapsulate the structure the trades would have to work around the installed sprinkler system as the system must be maintained during construction.

Single use products & environmental impact– Once a sprinkler is installed it can not be reused per the standard due to the chance of damage. Once the temporary system is removed or altered all the sprinklers would be disposed of permanently.

Supporting systems – As previously stated if the building does not have adequate water pressure to meet the demands of a sprinkler system designed for an Ordinary Hazard Group 2 classification a fire pump would need to be installed, tested, be equipped with power and connected to a fire alarm system to operate correctly. Power for air compressors, and heat.

Overdesign – A Building under construction would require a sprinkler system that is designed to an Ordinary Hazard Group 2 (as noted in the A-5.6.4.3). To achieve this it would require either a separate sprinkler system for the time of construction or an extremely over designed system (meaning potentially significantly larger sprinkler equipment and pipe, pumps added where not required for future building use or oversized pumps, etc) to then be repurposed after construction.

Conclusion

With the current focus across Canada on housing affordability we cannot support these changes. The NFC has not clearly outlined design requirements nor a sustainable path forward for all trades involved. Due to the challenges in the feasibility of install, extra cost of materials, the timing of required infrastructure and labour this change should not be further pursued.

In light of the misapplication and redundancy identified, I urge the committee to consider these points and reject the proposed change 1872. Preserving the current provisions ensures compliance with NFPA standards without incurring unnecessary costs or complexity.

Thank you for considering this perspective. CASA is willing to provide further details if needed and look forward to the committee's discernment in this matter.

James Hook
Codes & Technical Services Manager
Canadian Automatic Sprinkler Association
315 Renfrew Drive Suite 302
Markham, Ontario
L3R 9S7
tel: 905-477-2270

cell: 403-827-0441
fax: 905-477-3611
www.casa-firesprinkler.org

Vusal Ibrahimli
Technical Specialist – Fire
Canadian Wood Council

As the original proponent of CCR 1381, we support Proposed Change 1872, but with several suggestions for modifications to the proposed text. Please see the following feedback with respect to the proposed provisions.

COMMENT 1 – Justification

Article 5.6.4.1. “Application” of Division B of the 2020 NFC states that the requirements of Subsection 5.6.4. apply to encapsulated mass timber construction buildings that are under construction; not when the building is undergoing alteration or demolition.

With that, we recommend revising the below excerpt from the Justification, found on page 6 of 25 of the PCF, as follows:

The proposed requirements build upon or provide options to the existing strategies to more specifically address the fire hazards associated with mass timber building construction ~~and demolition~~ sites.

COMMENT 2 – Article 2.8.2.11.

We recommend removing the proposed new reference to “(See Note A-5.6.4.7.)” from Article 2.8.2.11. title, as shown below. This is due to there being several other existing NFC provisions related to control of fire hazards, whether at construction/ demolition sites or in/ around buildings (e.g., accumulation and removal of combustible materials in Articles 2.4.1.1., 5.6.1.20., and 5.6.3.4., *inter alia*), that are not being referenced in the subject Article’s title:

2.8.2.11. Construction and Demolition Sites
~~(See Note A-5.6.4.7.)~~

COMMENT 3 – Sentence 5.6.4.3.(1) & Appendix Note A-5.6.4.3.

To re-capture the bulk of the previously agreed upon wording by the SC-FP, before the Fall 2024 public review period opened and as seen in 2020-16 SC-FP Agenda Package, we recommend the following changes:

- Revise the chapeau of proposed Sentence 5.6.4.3.(1) to read as follows:

[Please note that the reference to “*alteration or demolition operations*” – though reflected in 2020-16 SC-FP Agenda Package – is also recommended to be deleted to be in line with the scope of Article 5.6.4.1. “Application” of Division B of the 2020 NFC (please see our previous Comment 1 above)]

[1] --) ~~To reduce the risk of fire spread to more than one storey of a building or part of a building undergoing construction, alteration or demolition operations, measures shall be taken that~~ Measures shall be taken to reduce the risk of fire spread to more than one storey of a building or part of a building undergoing construction by

[a] --) conforming to Articles 5.6.4.4. to 5.6.4.7., or

[b] --) employing the methods and materials that are deemed necessary following a risk assessment as part of a fire safety plan.

Amend the partial excerpt below from proposed Appendix Note A-5.6.4.3. to clarify that the requirements within Articles 5.6.4.4. to 5.6.4.7. do not all need to be combined to provide solutions to reduce fire spread between storeys:

Articles 5.6.4.4. to 5.6.4.7., ~~together~~ in some combination, provide solutions deemed acceptable for reducing this risk.

COMMENT 4 – Article 5.6.4.5. & Appendix Note A-5.6.4.5.(8)

We recommend revising proposed Article 5.6.4.5. title, as shown below, to better streamline the scope of subject provisions relative to the root requirements in Article 5.6.4.4.:

5.6.4.5. ~~Alternative Protection Measures~~ Exceptions for Protective Encapsulation

We also recommend replacing the reference to “progressive sprinklering” in Sentence 5.6.4.5.(1) to “automatic sprinkler system” to better align the choice of words with the proposed wording in subsequent Article 5.6.4.6., as follows (please also see our Comment 5 below):

[1] --) Except as provided in Sentence (8), the protective encapsulation material or assembly of materials described in Clause 5.6.4.4.(1)(a) and the ~~progressive sprinklering~~ automatic sprinkler system described in Article 5.6.4.6. need not be provided where the conditions of Sentences (2) to (7) are met.

The proposed Sentences 5.6.4.5.(4) and (5) share a common scope related to the provision of a standpipe system, addressing its installation and components, respectively. Sentence 5.6.4.5.(5) references the standpipe system described in Sentence 5.6.4.5.(4).

We recommend merging these two separate sentences into one Sentence (4), as originally intended, to group complementary provisions under a single chapeau for increased clarity, to read as follows:

[4] --) A standpipe system shall be ~~installed in accordance with Articles 5.6.1.6. and 5.6.4.2.,~~

[a] --) installed in accordance with Articles 5.6.1.6. and 5.6.4.2., and

[b] --) ~~[5] --) The standpipe system described in Sentence (4) shall be~~ provided with hose stations that are equipped with a hose line having a

[i] --) ~~[a] --) a~~ diameter of either 25 mm or 38 mm, and

[ii] --) ~~[b] --) a~~ length sufficient to cover all parts of the storey with a hose stream of not less than 5 m.

(See Note A-5.6.4.5.(~~4~~5)(b).)

[Please note that subsequent sentences and any applicable references to those sentences from this point onward would need to be renumbered accordingly. The commenter did not undertake this exercise when compiling the remainder of the comments presented hereinafter.]

We also recommend revising Appendix Note A-5.6.4.5.(8) for increased clarity to read as follows:

It is intended that all storeys of the building meet the conditions of Sentences 5.6.4.5.(2) to (7) during construction once the structural floor assembly above the fifth storey has been constructed.

COMMENT 5 – Article 5.6.4.6.

We recommend revising Article 5.6.4.6. title, as shown below, to better streamline the scope of subject provisions relative to the root requirements in Article 5.6.4.4. and exceptions in Article 5.6.4.5., as well as the recommended choice of words in proposed Sentence 5.6.4.5.(1) (please see our previous Comment 4):

5.6.4.6. Progressive Sprinklering Sprinkler Alternative to Protective Encapsulation

COMMENT 6 – Article 5.6.4.7. & Appendix Note A-5.6.4.7.

To re-capture the bulk of the previously agreed upon wording by the SC-FP, before the Fall 2024 public review period opened and as seen in 2020-16 SC-FP Agenda Package, we recommend the following revisions:

- Revise Article 5.6.4.7. title to read as follows:

5.6.4.7. Management of Indoor Storage of Combustible Materials

- Amend the proposed Sentence 5.6.4.7.(1) to apply on each storey and read as follows:

[1] --) For each storey, indoor storage of cCombustible materials ~~that are stored indoors~~ shall be arranged in individual piles not exceeding 1.2 m in width and 2.4 m in length.

- Revise the proposed Clause 5.6.4.7.(2)(c) for increased clarity to read as follows:

[2] --) A clearance of not less than 3 m shall be maintained between an individual pile of combustible materials described in Sentence (1) and

[a] --) the outer edge of the floor assembly,

[b] --) any *exit* serving the *storey*,

[c] --) any other individual pile of combustible materials, and

[d] --) any ignition source.

- Amend the partial excerpt below from Appendix Note A-5.6.4.7. to read as follows:

The short-term and transient accumulation and storage of combustible materials which may only be ~~that are~~ necessary for day-to-day construction activities may not constitute an undue fire hazard with respect to the placement of the materials.

Appendix F

WORK PLAN

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4.5. Work plan

Action Requested: Decision Guidance Information

Summary

This agenda item includes various information used to plan the work of the NMCC-FLS in fulfilling its mandate. The dates shown are subject to revision as we progress into the code cycle.

The CBHCC has confirmed that the last public review window opportunity to submit new proposed changes will be spring 2028 (public review [PR5]). There are several steps to proceed with a formal recommendation to submit proposed changes to PR that involve multiple parties. It is important to account for the timeline between the scheduled PR and the last NMCC-FLS meeting opportunity (as shown on the milestones and Gantt chart) to review proposed changes to implement a work plan for the NMCC-FLS.

Additionally, Codes Canada have assigned one Technical Advisor (TA) to support each task. There are currently 12 NMCCs each with a variable number of tasks. The planning of the activities on each of the task needs to consider the TAs' availability. This is an opportunity for the NMCC-FLS to potentially prioritize the tasks.

In this Agenda Package

1. *Scheduled dates for the public reviews*
2. *Task report (NMCC-FLS)*
3. *Gantt chart of the project*

Desired Outcome

Provide guidance on what is expected from the NMCC on Fire & Life Safety.

September, 2025

Tuesday Sep 30

• **LAST NMCC MEETING BEFORE PR1**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

October, 2025

Friday Oct 31

• **PCF READY PR1**

Date to submit PCFs to P&M for the next PR.

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

March, 2026

Monday Mar 23

• **SPRING PUBLIC REVIEW 1**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

May, 2026

Friday May 29

• **LAST NMCC MEETING BEFORE PR2**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

June, 2026

Friday Jun 26

• **PCF READY PR2**

Date to submit PCFs to P&M for the next PR.

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

September, 2026

Wednesday Sep 30

• **LAST NMCC MEETING BEFORE PR3**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

October, 2026

Monday Oct 26

• **FALL PUBLIC REVIEW 2**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Thursday Oct 29

• **PCF READY PR3**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Date to submit PCFs to P&M for the next PR.

March, 2027

Monday Mar 22

• **SPRING PUBLIC REVIEW 3**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

May, 2027

Monday May 31

• **LAST NMCC MEETING BEFORE PR4**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

June, 2027

Friday Jun 25

• **PCF READY PR4**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Date to submit PCFs to P&M for the next PR.

September, 2027

Thursday Sep 30

• **LAST NMCC MEETING BEFORE PR5**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

October, 2027

Monday Oct 25

• **FALL PUBLIC REVIEW 4**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Friday Oct 29

• **PCF READY PR5**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Date to submit PCFs to P&M for the next PR.

March, 2028

Monday Mar 20

• **SPRING PUBLIC REVIEW 5**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

May, 2028

Wednesday May 31

• **LAST NMCC MEETING BEFORE PR6**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

June, 2028

Friday Jun 23

• **PCF READY PR6**

Date to submit PCFs to P&M for the next PR.

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

September, 2028

Friday Sep 29

• **LAST NMCC MEETING BEFORE PR7**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

October, 2028

Monday Oct 23

• **FALL PUBLIC REVIEW 6**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Friday Oct 27

• **PCF READY PF7**

Date to submit PCFs to P&M for the next PR.

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

March, 2029

Monday Mar 19

• **SPRING PUBLIC REVIEW 7**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

May, 2029

Thursday May 31

• **LAST NMCC MEETING BEFORE PR8**

Upcoming

00 NMCC-FLS [09/25/2024 - 12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

June, 2029

Friday Jun 22

• **PCF READY PR8**

Date to submit PCFs to P&M for the next PR.

Upcoming

00 NMCC-FLS [09/25/2024 -
12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

October, 2029

Monday Oct 22

• **FALL PUBLIC REVIEW 8**

Upcoming

00 NMCC-FLS [09/25/2024 -
12/31/2030] (FLS)

Assigned to: ANDRE LAROCHE

Tasks Report



00 NMCC-FLS — FLS

Project Start Date: 09/25/2024 End Date: 12/31/2030

Generated: 13 Feb 2025 14:00

This National model code committee (NMCC) will develop code changes to address fire and life safety risks associated with the:

1. construction types and materials: EMTC, fire performance of floor assemblies in houses, fire-resistance ratings (Table 9.10.3.1.-A)
2. energy retrofit to existing buildings (Part 9)
3. relaxations for small residential buildings
4. ESS and EV charging equipment
5. hazardous processes
6. attribution and intent statements related to firefighter safety,
7. single egress
8. MURBs (3 to 8 dwelling units)

in the National Model Codes in accordance with Canadian Board for Harmonized Construction Codes (CBHCC) approved work plan in order to safeguard the buildings, occupants and firefighters when performing their duties.

00 TIME ESTIMATE

Active Tasks

Task	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status	Estimated	Time	Billable
PROJECT management Project Management	09/25/2024	12/31/2027	Anyone	ANDRE LAROCHE		0%	Upcoming (Started)	80 hours	51 hours 9 minutes	51 hours 9 minutes
								80 hours	51 hours 9 minutes	51 hours 9 minutes

02 ACTIVITIES

Under this task list, you will find all the activities (or prioritized tasks) that the NMCC on Fire and Life Safety (NMCC-FLS) is responsible to address within the 2025-2030 code cycle.

Active Tasks

Task	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status	Estimated	Time	Billable
<p>01 ADDITIONAL CONSIDERATIONS FOR ENERGY RETROFITS IN EXISTING PART 9 BUILDINGS</p> <p>Approved Task</p> <p>Address barriers to improving thermal resistance due to fire risks raised during the development of energy efficiency proposed changes in the 2020–2025 code cycle:</p> <ul style="list-style-type: none"> • Addition of exterior insulation and limiting distance • Use of spray foam to increase thermal resistance of assemblies 	03/06/2025	09/29/2027	Tiam Maeiyat, Nick Yu	ANDRE LAROCHE	Medium	0%	Upcoming (Started)	80 hours	2 hours 57 minutes	2 hours 57 minutes
<p>02 ENCAPSULATED MASS TIMBER CONSTRUCTION (EMTC)</p> <p>Approved Task</p> <p>Review technical changes developed by provinces and territories for inclusion in the National Model Codes.</p>	03/06/2025	09/27/2027	Ye Carrier, Julia Dalphy	ANDRE LAROCHE	Medium	0%	Upcoming (Started)	80 hours	1 hour 15 minutes	1 hour 15 minutes
<p>03 ENERGY STORAGE SYSTEM (ESS) AND EV CHARGING</p> <p>Approved Task</p> <p>Develop technical requirements to address the potential fire and health safety hazards associated with installation and maintenance of ESS and EV charging stations for new and existing buildings. In developing requirements, consider</p>	03/07/2025	09/28/2027	Ye Carrier, Julia Dalphy	ANDRE LAROCHE	High	0%	Upcoming (Started)	80 hours	2 hours 5 minutes	2 hours 5 minutes

coordination with the Canadian Electrical Code (CEC).

1. **ANDRE LAROCHE** 01/24/2025 at 11:05

Attached are potential background information on associated risks and hazards management for EV charging stations.

<p>04 FIRE PERFORMANCE OF FLOOR ASSEMBLIES IN HOUSES Approved Task</p> <p>Develop technical requirements for the acceptable level of performance for a floor assembly in a house exposed to fire.</p>	03/06/2025	09/27/2027	Ye Carrier, ANDRE LAROCHE	ANDRE LAROCHE	Low	0%	Upcoming (Not started)	80 hours	0	0
<p>05 REVIEW OF ATTRIBUTION AND INTENT STATEMENTS RELATED TO FIREFIGHTER SAFETY Approved Task</p> <p>Upon reviewing the outcome of the research project that evaluates existing requirements, attribution and intent statements of the NBC and NFC with regards to firefighter safety when performing their duties, and subject to CBHCC approval of a new firefighter safety sub-objective</p> <ul style="list-style-type: none"> Align attributions and intent statements of current code requirements of NBC and NFC for consistency, where applicable Attribute current requirements to the new OS6 sub-objectives and functional 	04/01/2025	09/27/2027	Nick Yu, ANDRE LAROCHE	ANDRE LAROCHE	High	0%	Upcoming (Not started)	80 hours	0	0

statements, and recommend changes to intent statements where necessary										
<p>06 HAZARDOUS PROCESSES</p> <p>Approved Task</p> <ol style="list-style-type: none"> 1. Develop code changes regarding the classification, storage, handling, use and processing of dangerous goods, flammable and combustible liquids 2. Address risks to safety, health and property associated with hazardous processes and operations: 3. hot works (including roofing operations) 4. chemical waste and recycling (i.e. equipment standards, storage, inspections, etc.) 	03/06/2025	09/27/2027	Ye Carrier, ANDRE LAROCHE	ANDRE LAROCHE	Low	0%	Upcoming (Not started)	80 hours	0	0
<p>07 FIRE-RESISTANCE RATINGS</p> <p>Approved Task</p> <p>Construction and fire rating of the exterior wall assembly in Table 9.10.3.1.-A.</p>	03/06/2025	09/27/2027	Nick Yu, ANDRE LAROCHE	ANDRE LAROCHE	Low	0%	Upcoming (Started)	80 hours	6 minutes	6 minutes

1. ANDRE LAROCHE 12/05/2024 at 15:51

Just posted outstanding CCRs and issues raised by the gypsum industry that seems to be at the foundation for this task.

08 SINGLE EGRESS

Approved Task

10/09/2024

09/27/2027

Brigitte Potvin, Behnoush Etemadi

ANDRE LAROCHE

High

0%

Upcoming (Started)

80 hours

11 hours 28 minutes

11 hours 28 minutes

Consider Potential code changes related to Single Egress Construction (SEC) in multi unit residential occupancies as well as their application limitations.

1. ANDRE LAROCHE 11/18/2024 at 16:25

Report from NFPA on single stairs (https://www.nfpa.org/education%20and%20research/building%20and%20life%20safety/the%20single%20exit%20stair%20debate). Additional publications found here:

- Laura (from NFPA) also wrote a feature for Firefighting in Canada (which actually mentioned the NRC & CBHCC in a few places): https://www.firefightingincanada.com/nfpa-impact-the-debate-over-single-egress-stairway/
- This (other) article has a summary at the bottom about some of the key concerns/takeaways based on the new NFPA report: https://www.securityinflowatch.com/alerts-monitoring/fire-life-safety/press-release/55242945/nfpa-releases-report-on-single-exit-stair-apartment-buildings

09 MULTI-UNIT RESIDENTIAL BUILDINGS (3-8 DWELLING UNITS)

Approved Task

03/06/2025

09/27/2027

Nick Yu, Julia Dalphy

ANDRE LAROCHE

Low

0%

Upcoming (Not started)

80 hours

0

0

Consider the required fire and life safety requirements for small 3-8 unit multi-unit residential buildings (MURB) in Part 9 of the NBC and develop requirements where appropriate.

1. ANDRE LAROCHE 11/07/2024 at 11:15

Nedjma and Hayley, Any news on a draft ToR for this task and estimated time to complete the task?

720 hours

17 hours 51 minutes

17 hours 51 minutes

PHASE I - PROJECT INITIATION

Active Tasks

168

Task	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status	Estimated	Time	Billable
Research Research		11/25/2024	Anyone	ANDRE		0%	Late (Not	4 hours	0	0

	Create pitch deck Creative Design		12/02/2024	Anyone	ANDRE LAROCHE		0%	Late (Not started)	2 hours	0	0
									6 hours	0	0

PHASE II - PROJECT PLANNING

Active Tasks

Task	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status	Estimated	Time	Billable	
Project kick-off meeting Meeting		12/05/2024	ANDRE LAROCHE	ANDRE LAROCHE	High	0%	Late (Started)	62 hours	2 hours 4 minutes	2 hours 4 minutes	
<ul style="list-style-type: none"> 2030-01 MEETING (OTTAWA, ON) Meeting 01 IN PROGRESS <p>Potential dates for a F2F meeting held in Ottawa, ON include last week of February or first week of March.</p>			ANDRE LAROCHE	ANDRE LAROCHE		0%	(Started)	24 hours	1 hour 35 minutes	1 hour 35 minutes	
<p>1. ANDRE LAROCHE 01/24/2025 at 12:56</p> <p>Need to clarify the mandate and role of the Advisory Council.</p>											
<ul style="list-style-type: none"> COMPILE AGENDA PACKAGE Agenda 00 TO DO 	02/03/2025	02/14/2025	ANDRE LAROCHE	ANDRE LAROCHE	Low	0%	Upcoming (within 7 days) (Started)	26 hours	20 hours 49 minutes	20 hours 49 minutes	
<ul style="list-style-type: none"> EMTC PRESENTATION Presentation 00 TO DO <p>Provide background information (high level) on EMTC requirements in the National Model Codes leading to the discussion on the comments received on PCF 1872.</p>	01/22/2025	02/12/2025	Julia Dalphy, ANDRE LAROCHE	ANDRE LAROCHE	Medium	0%	Late (Not started)	10 hours	0	0	
									122 hours	24 hours 28 minutes	24 hours 28 minutes

PHASE III - PROJECT EXECUTION

Active Tasks

Task	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status	Estimated	Time	Billable
Weekly check-in meeting Meeting		12/02/2024	Anyone	ANDRE LAROCHE	Low	0%	Late (Not started)	1 hour	0	0
Track project against timelines Project Management		12/02/2024	Anyone	ANDRE LAROCHE	Medium	0%	Late (Not started)	40 hours	0	0
Quality check			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
Ensure deliverables are on track			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
Identify any blockers			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
10 REPORT TO THE SCCC Project Management			ANDRE LAROCHE	ANDRE LAROCHE		0%	(Not started)	15 hours	0	0
11 RECOMMENDATIONS TO THE CBHCC CBHCC/CCHCC			ANDRE LAROCHE	ANDRE LAROCHE		0%	(Not started)	15 hours	0	0
								71 hours	0	0

PROJECT DEBRIEF

Active Tasks

Task	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status	Estimated	Time	Billable
Project debrief meeting			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
Identify what went well with this project and why			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
Identify what didn't go so well and what was the cause			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0

Identify what should we do differently in the future			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
Identify how we capture this information to use next time			Anyone	ANDRE LAROCHE		0%	(Not started)	0	0	0
								0	0	0

Generated for ANDRE LAROCHE at 14:00 02/13/2025

Appendix G

CODE APPLICATION

2030-01 Meeting of the NMCC on Fire & Life Safety

Agenda Item Summary Sheet

1.4.6. Code application

Action Requested: Decision Guidance Information

Summary

Codes Canada regularly receive inquiries on the application of the National Model Codes requirements from authorities having jurisdictions. Sometimes, their questions raise a doubt on the intent or application of a code provision. Hereafter is a perfect example.

It is not clear whether the application of Sentences 3.2.4.1.(5) and 9.10.18.2.(5) of Division B of the NBC (2020)—exempting residential occupancies from the installation of a fire alarm systems where an exit or public corridor serves not more than 4 suites (or share a common means of egress)—applies to the number of suites for the building or per floor area?

Codes Canada interpretation of the application is per floor area since the type of exits apply to floor areas (see Articles 3.4.1.4. and 9.9.2.1.).

In this Agenda Package

1. *Sentences 3.2.4.1.(5) and 9.10.18.2.(5)*
2. *Intent statements*

Desired Outcome

Provide guidance on the application of both Sentences.

3.2.4.1. Determination of Requirement for a Fire Alarm System

- 1) Except as permitted in Sentences (2) and (3), a fire alarm system shall be installed in *buildings* in which an automatic sprinkler system is installed.
- 2) *Buildings* in which a sprinkler system is installed in accordance with NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," need not comply with Sentence (1).
- 3) *Buildings* that contain fewer than 9 sprinklers conforming to Sentence 3.2.5.12.(4) need not comply with Sentence (1).
- 4) Except as permitted by Sentences (5), (6) and 3.2.4.2.(4), a fire alarm system shall be installed in a *building* that is not *sprinklered* throughout and that contains
 - a) a *contained use area*,
 - b) an *impeded egress zone*,
 - c) more than 3 *storeys*, including the *storeys* below the *first storey*,
 - d) a total *occupant load* more than 300, other than in open air seating areas,
 - e) an *occupant load* more than 150 above or below the *first storey*, other than in open air seating areas,
 - f) a school, college, or child care facility, including a daycare facility, with an *occupant load* more than 40,
 - g) a licensed beverage establishment or a licensed restaurant, with an *occupant load* more than 150,
 - h) a *low-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
 - i) a *medium-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
 - j) a *residential occupancy* with sleeping accommodation for more than 10 persons,
 - k) a *high-hazard industrial occupancy* with an *occupant load* more than 25, or
 - l) an *occupant load* more than 300 below an open air seating area.
- 5) A fire alarm system is not required in a *residential occupancy* that is not *sprinklered*, where
 - a) not more than 4 *suites* share a common *means of egress*, or
 - b) each *suite* has direct access to an exterior *exit* facility leading to ground level.
- 6) A fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.92. that is contained in a *building* that is not *sprinklered* provided there are no other *occupancies* in the *building*.

Sentence 3.2.4.1.(5)

1. [+](#)

Intent

Intent 1:

To exempt certain buildings from the application of Sentence 3.2.4.1.(4), which might otherwise require a fire alarm system, on the basis that the buildings are limited in size and the dwelling units have a direct means of evacuation to the exterior [persons should not be delayed in reaching a safe place].

Sentence 3.2.4.1.(4)

1. [OS1](#)

Objective

OS1 Fire Safety

Attribution

[\[F11-OS1.5\]](#)

Intent

Intent 1:

To limit the probability that persons will not be promptly notified of a fire situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

OS1 Fire Safety

An objective of this Code is to limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by—

OS1.5 -

persons being delayed in or impeded from moving to a safe place during a fire emergency

Functional Statements

1) The objectives of this Code are achieved by measures, such as those described in the acceptable solutions in Division B, that are intended to allow the building or its elements to perform the following functions (see Appendix A):

- **F11** To notify persons, in a timely manner, of the need to take action in an emergency.

9.10.18.2. Fire Alarm System Required

- 1) Except as permitted in Sentences (3) and (4), a fire alarm system shall be installed in *buildings* in which a sprinkler system is installed.
- 2) Except as provided in Sentence (5), a fire alarm system shall be installed
 - a) in every *building* that contains more than 3 *storeys*, including *storeys* below the *first storey*,
 - b) where the total *occupant load* exceeds 300, or c) when the *occupant load* for any *major occupancy* in Table 9.10.18.2. is exceeded.

Table 9.10.18.2.
Maximum Occupant Load for Buildings without Fire Alarm Systems
Forming Part of Sentence 9.10.18.2.(2)

<i>Major Occupancy Classification</i>	<i>Occupant Load Above which a Fire Alarm System is Required</i>
<i>Residential</i>	10 (sleeping accommodation)
<i>Business and personal services, Mercantile</i>	150 above or below the <i>first storey</i>
<i>Low- or medium-hazard industrial</i>	75 above or below the <i>first storey</i>

3) In *buildings* in which a sprinkler system has been installed in accordance with NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," a fire alarm system need not be installed.

4) In *buildings* that contain fewer than 9 sprinklers conforming to Sentence 3.2.5.12.(4), a fire alarm system need not be installed.

5) A fire alarm system is not required in a *residential occupancy* where an *exit* or *public corridor* serves not more than 4 *suites* or where each *suite* has direct access to an exterior *exit* facility leading to ground level.

Sentence 9.10.18.2.(5)

1. +

Intent

Intent 1:

To exempt certain buildings from the application of Sentence 9.10.18.2.(2), which might otherwise require a fire alarm system, on the basis that the buildings are limited in size and the dwelling units have a direct means of evacuation to the exterior [persons should therefore not be delayed in reaching a safe place].

Sentence 9.10.18.2.(2)

1. OS1

Objective

OS1 Fire Safety

Attribution

[F11-OS1.5]

Intent

Intent 1:

To limit the probability that persons will not be promptly notified of a fire situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

National Model Codes Committee

Orientation session introduction

NMCC-FLS 2030-01 Meeting

March 3–5, 2025



HANDOUT NO. 4
Revised orientation session



Welcome to the Team

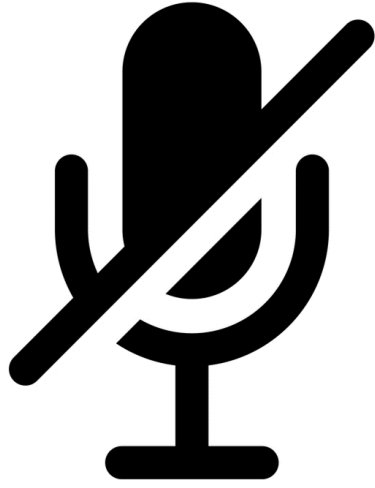


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Construction Codes

HANDOUT NO. 4
Revised orientation session



Before we start



MY NAME IS

Purpose of the session

- National Model Codes
- Harmonized code development system
- Operating procedures
- Travel and meeting planning



National Model Codes



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Canadian Board for Harmonized
Construction Codes

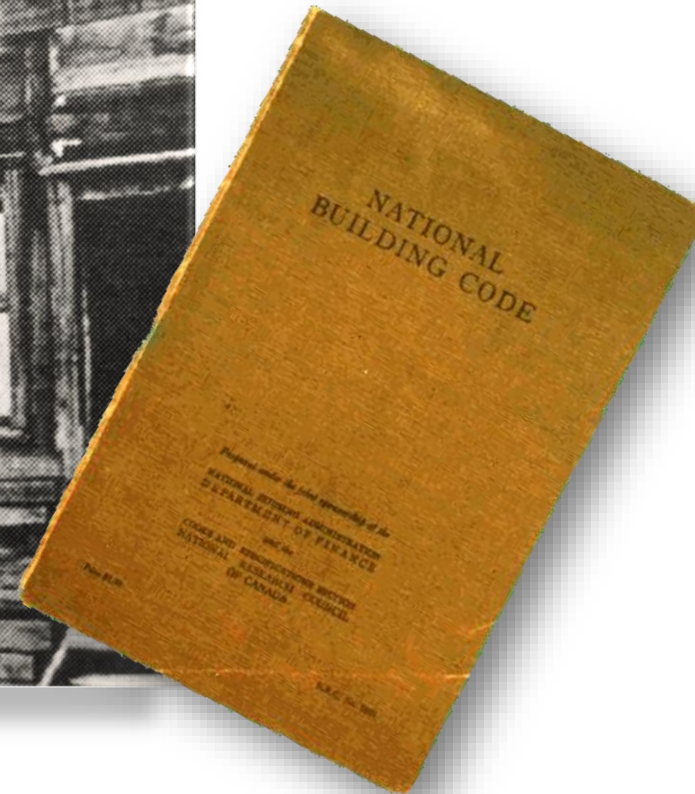
HANDOUT NO. 4
Revised orientation session

Outline

- What are model codes?
- What is the code development system and who is involved?
- How to participate?



What are the National Model Codes?



National Model Codes

- Become regulation when adopted by a jurisdiction
- Establish minimum acceptable performance
- Use as a regulatory instrument
- Are not a design manual
- Are not a guide of best practices

What are the National Model Codes?

- 85 years of collaboration and partnership between provinces and territories, NRC (federal) and individual volunteers
 - Open and transparent model code development
 - Regulatory impact analysis for all changes
 - Research and evidence-based codes
 - Administratively supported by Codes Canada
 - Consensus-based recommendations

Codes and guides

50+ codes published since 1941

Latest editions

- National Building Code 2020
- National Fire Code 2020
- National Plumbing Code 2020
- National Energy Code for Buildings 2020



Guides, supplements and commentaries

- Structural Commentaries (User's Guide: NBC–Part 4)
- Illustrated User's Guide: NBC–Part 9
- User's Guide: National Energy Code of Canada for Buildings

Free codes

- Free codes (electronic)
 - current National Model Codes
 - previous editions of National Model Codes
 - provincial codes published by NRC
- Paper copies at a reduced cost



Objective-based codes

- Code structure supports performance criteria
- Supports alternative solutions
- Structure
 - Objective
 - Sub-objective
 - Functional statement

Examples of National Model Codes Objectives

Safety

- Fire safety
- Structural safety
- Safety in use
- Resistance to unwanted entry
- Safety at construction and demolition sites

Health

- Indoor conditions
- Sanitation
- Noise protection
- Vibration or deflection limitation
- Hazardous substances containment

Accessibility

- Barrier-free path of travel
- Barrier-free facilities

Fire and structural protection of buildings

- Fire protection of the building
- Structural sufficiency of the building
- Protection of adjacent buildings from fire
- Protection of adjacent buildings from structural damage

Environment

- Resources

Objectives and sub-objectives

- Objectives limit the probability that a hazard will pose an unacceptable risk to people, buildings, or the environment

OS Safety

An objective of this Code is to limit the probability that, as a result of the design, construction or demolition of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury.

OS1 Fire Safety

An objective of this Code is to limit the probability that, as a result of the design or construction of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by—

- OS1.1 – fire or explosion occurring
- OS1.2 – fire or explosion impacting areas beyond its point of origin
- OS1.3 – collapse of physical elements due to a fire or explosion
- OS1.4 – fire safety systems failing to function as expected
- OS1.5 – persons being delayed in or impeded from moving to a safe place during a fire emergency

Functional statements

- Describe the function the element achieves
- Are qualitative

3.2.1. Functional Statements

3.2.1.1. Functional Statements

1) The objectives of this Code are achieved by measures, such as those described in the acceptable solutions in Division B, that are intended to allow the *building* or its elements to perform the following functions (see Note A-3.2.1.1.(1)):

F01 To minimize the risk of accidental ignition.

F02 To limit the severity and effects of fire or explosions.

F03 To retard the effects of fire on areas beyond its point of origin.

Code requirements: prescriptive and performance

- Prescriptive

3.1.8.15. Door Latches

1) Except as permitted by Article 3.3.3.5., a swing-type door in a *fire separation* shall be equipped with a positive latching mechanism designed to hold the door in the closed position after each use.

- Performance

3.2.6.2. Limits to Smoke Movement

2) A *building* referred to in Sentence (1) shall be designed so that, during a period of 2 h after the start of a fire, each *exit* stair serving *storeys* below the lowest *exit level* will not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in accordance with Subsection 1.1.3. (See Note A-3.2.6.2.(2).)

Harmonized code development system



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HANDOUT NO. 4
Revised orientation session

PAGE 17

Roles and responsibilities

- Provinces and territories pass legislation enacting building and fire regulations
- NRC supports the system and publishes the National Model Codes, but is not a regulatory authority



Why consider harmonization?

- More consistent minimum level of safety, accessibility, energy efficiency and other performance attributes across Canada
- More practical for industry and consumers
 - Common rules can reduce trade barriers



What does it mean for your work?

- Codes development committees need to prioritize harmonization and consider the feasibility of adopting code changes nationwide in their work
- National Model Codes Committee (NMCCs) have (or will soon have) representatives from the provinces and territories
- Proposals that are developed through the system and published in the National Model Codes are more likely to be implemented if they meet the needs of the jurisdictions

Operating procedures

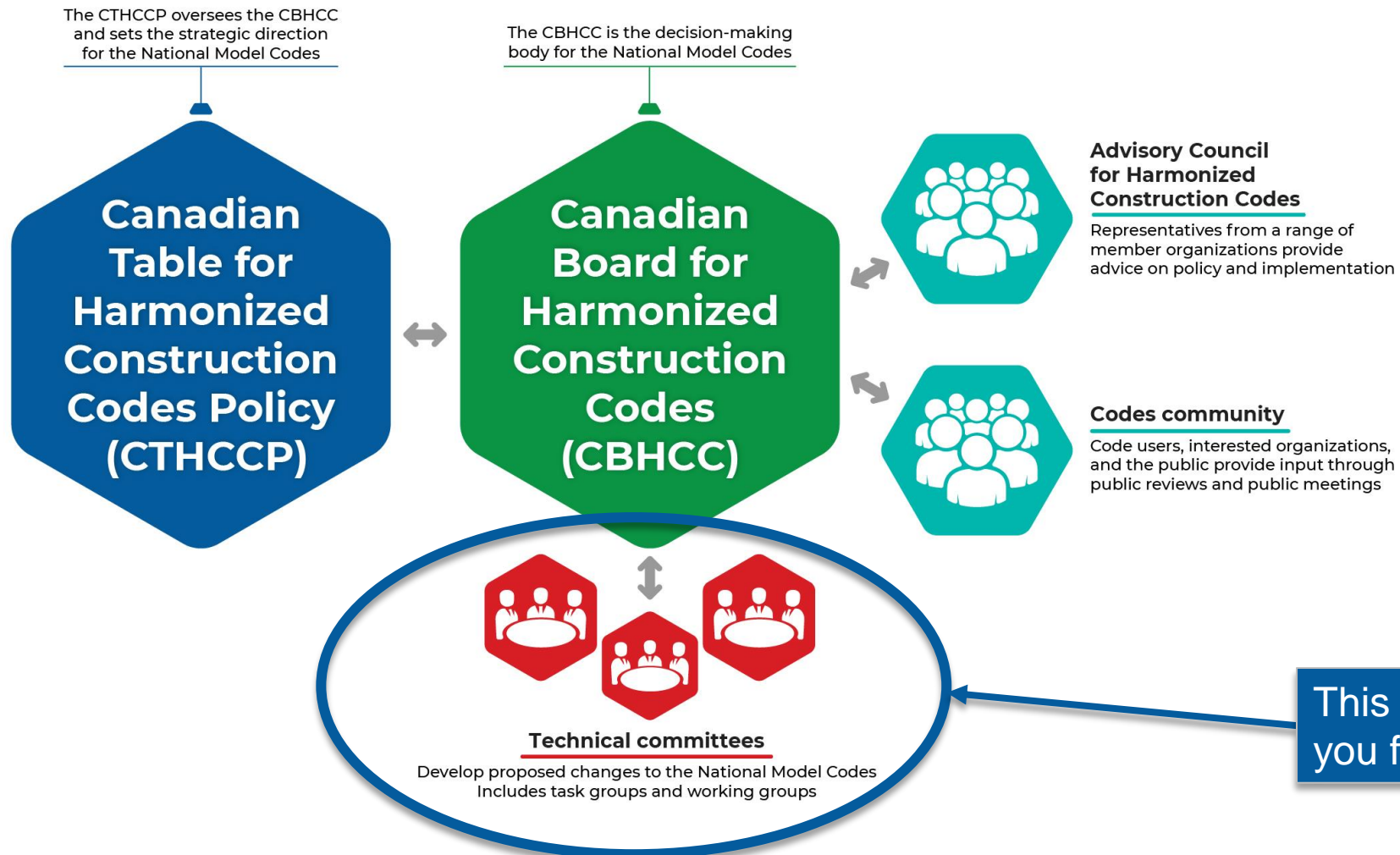


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Governance and structure



This is where you fit in!

Operating procedures

**Harmonized
code
development
process**

**Development
committees**

**Process
review
request**

Harmonized code development process

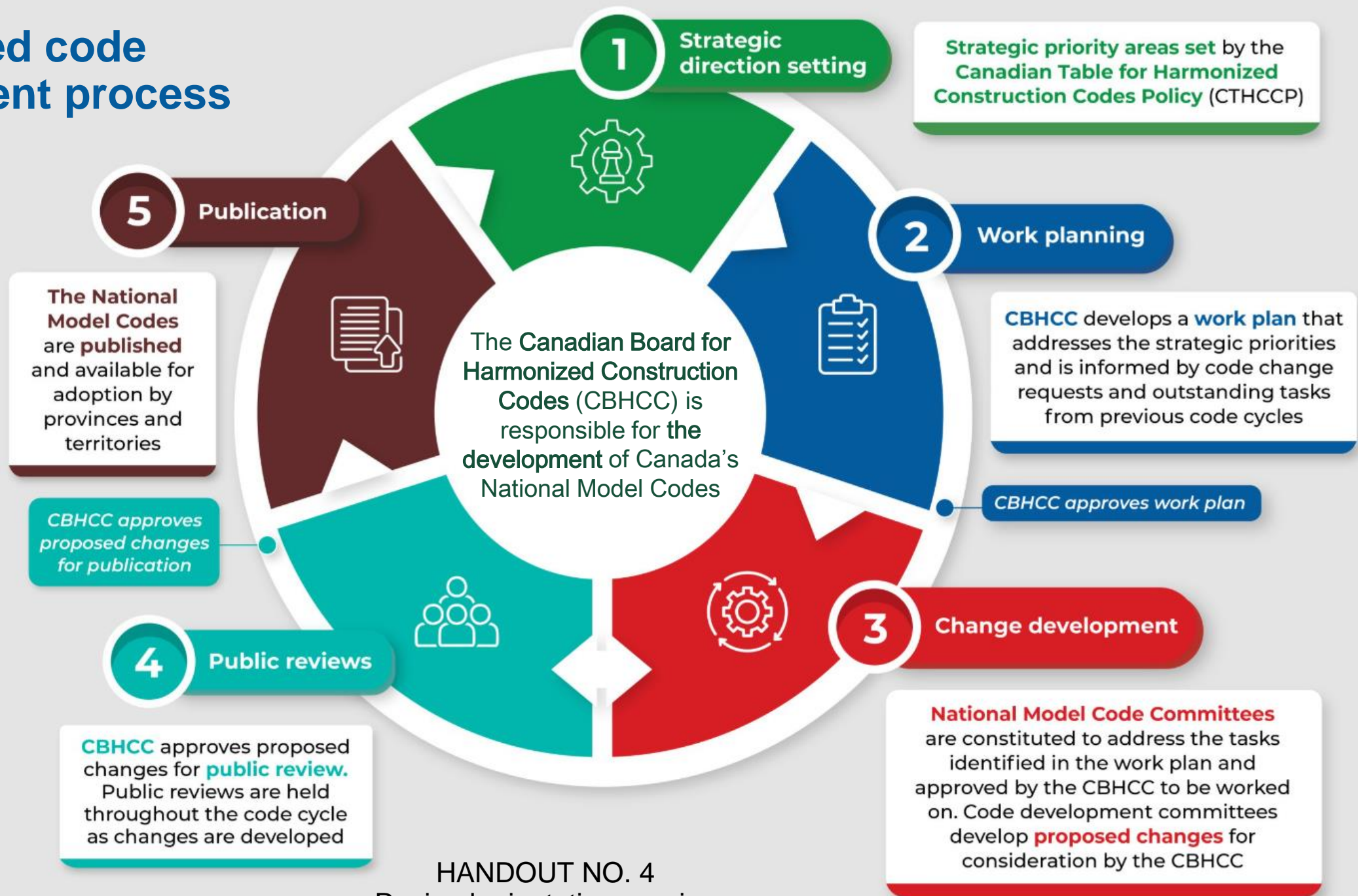


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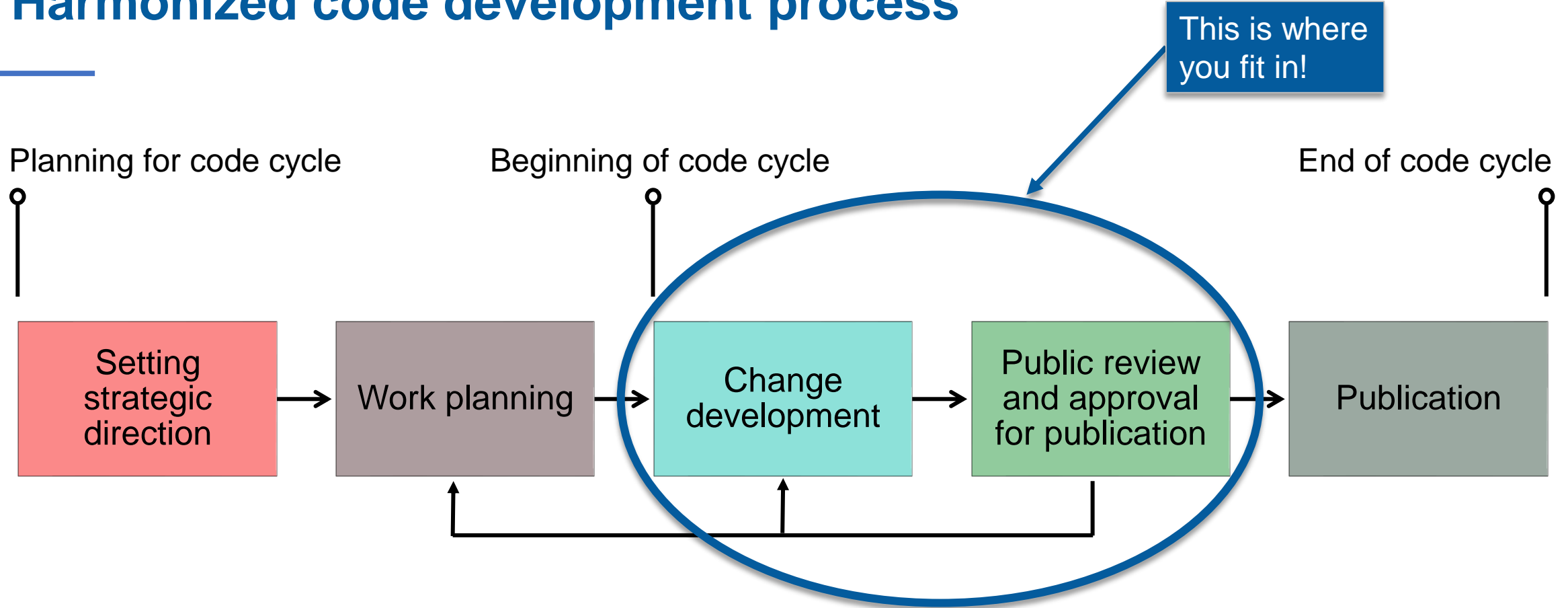
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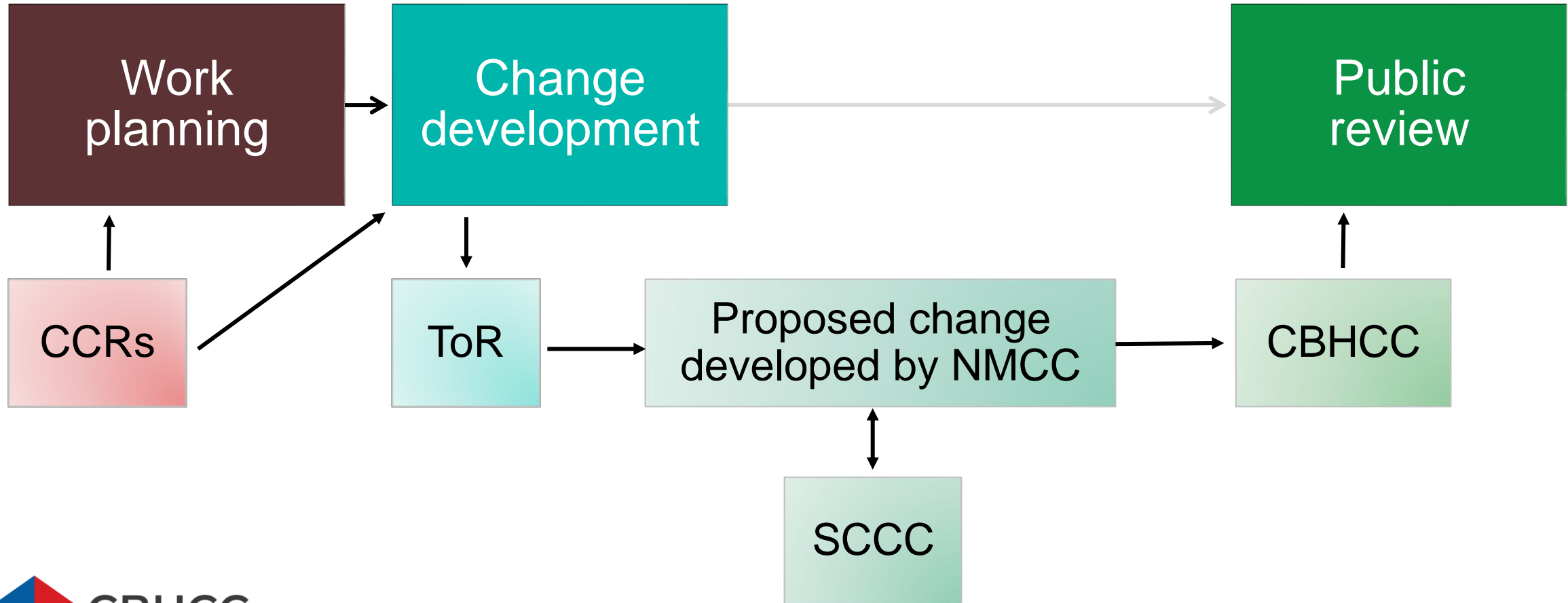
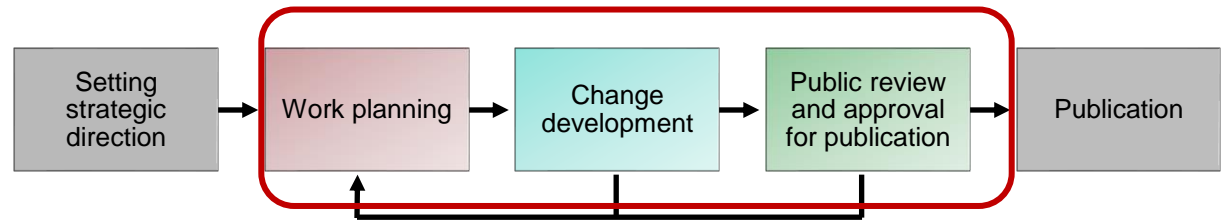
Harmonized code development process



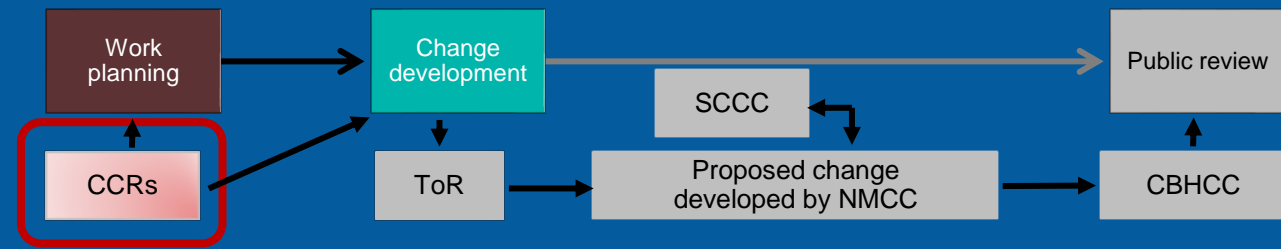
Harmonized code development process



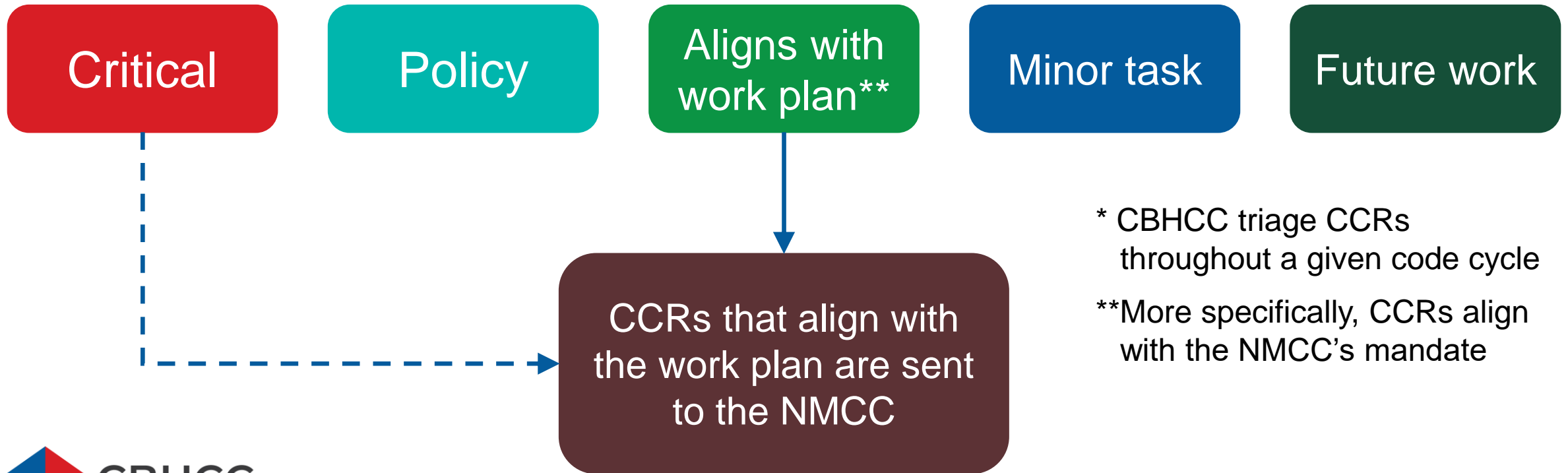
How code changes happen



Code change requests



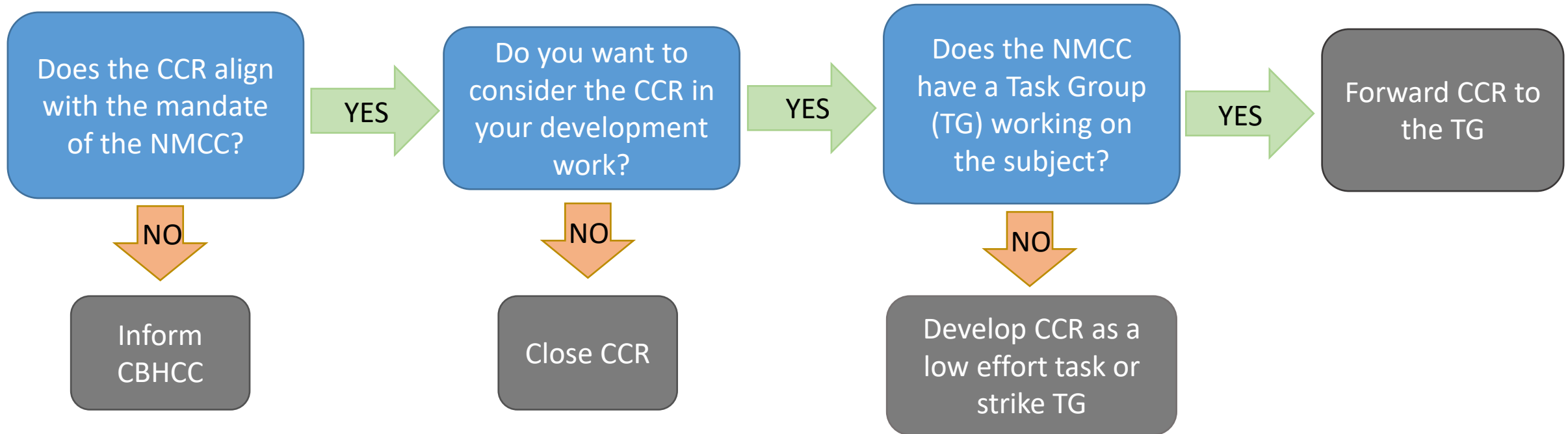
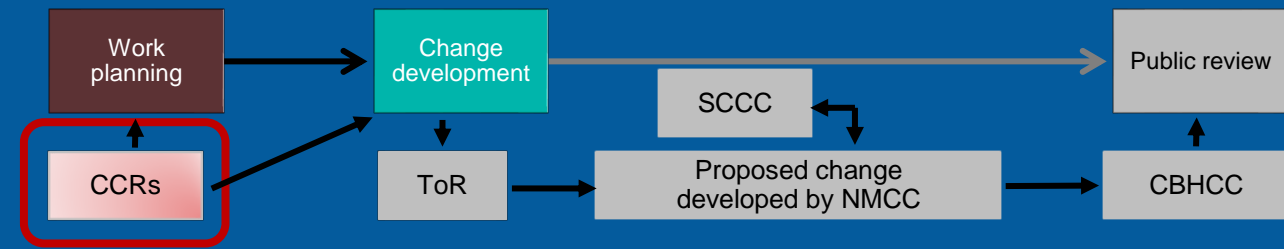
Code change requests (CCRs) are triaged* by the CBHCC as



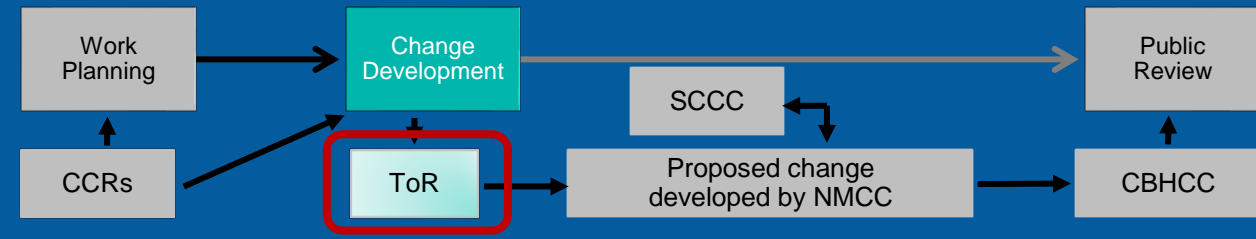
* CBHCC triage CCRs throughout a given code cycle

**More specifically, CCRs align with the NMCC's mandate

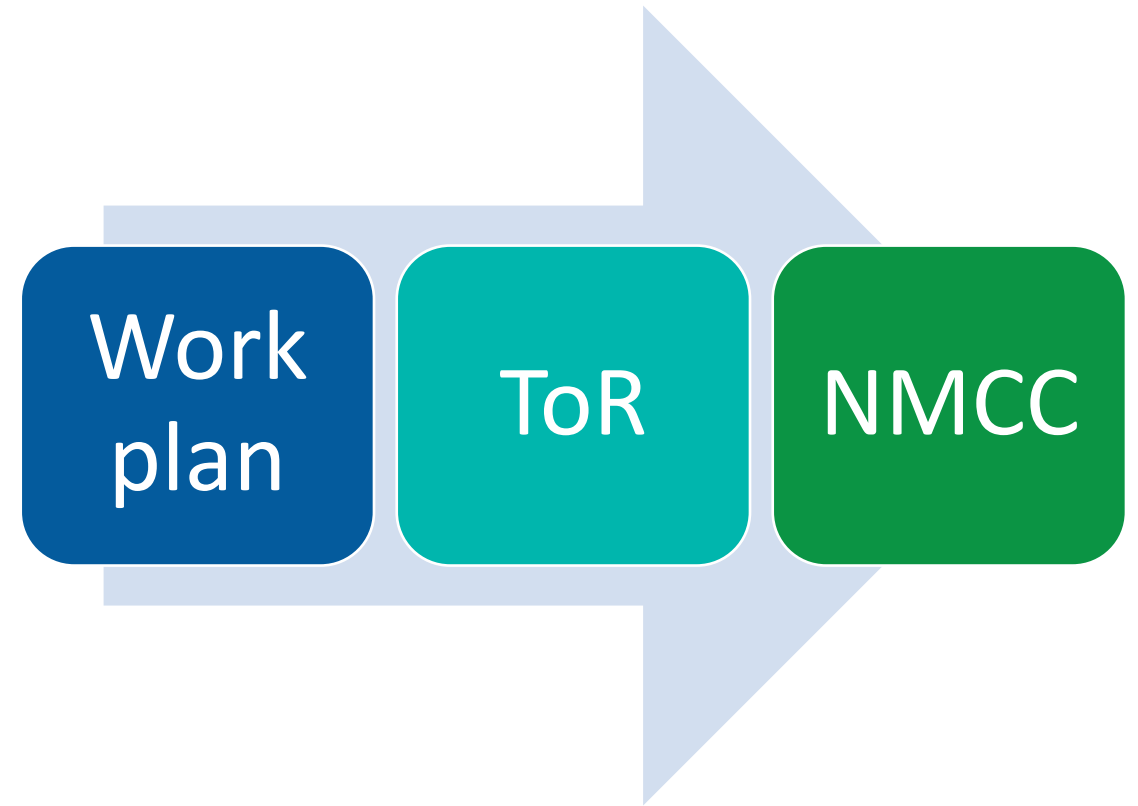
Code change requests



Terms of reference



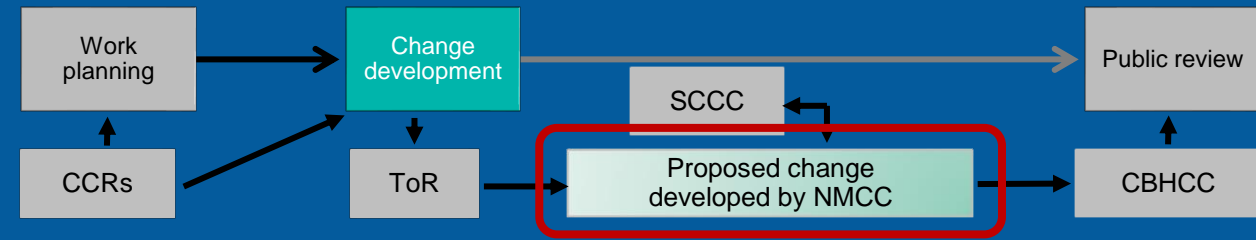
- Work plan includes development of NMCC terms of reference (ToR)
- CBHCC approves the ToR before striking NMCCs
- ToR cannot be changed by the NMCC



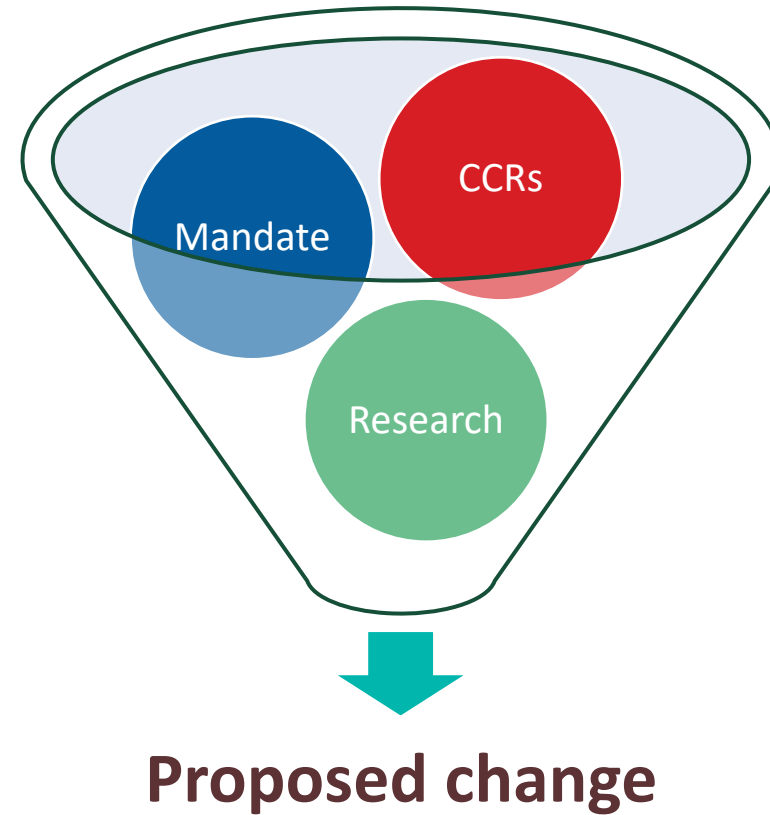
NMCCs for the 2030 code cycle

- Accessibility
- Climate change adaptation
- Climate change mitigation
- Climatic data
- **Fire and life safety**
- Harmonization
- Harmonization of alteration to existing buildings
- Housing supply
- Indoor environment
- Performance-based solutions
- Referenced documents
- Seismic design

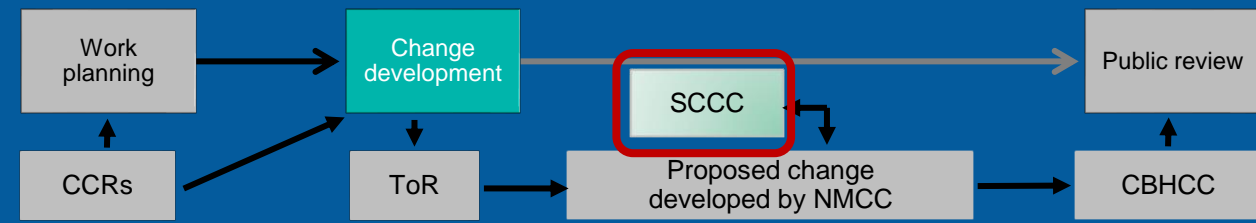
Proposed changes



- Developed by development committees
- Includes consideration of
 - direction from the CBHCC
 - issue to be addressed
 - supporting evidence
 - harmonization across the provinces and territories
 - impacts of changes to the codes
 - enforcement implications associated with implementation of the changes

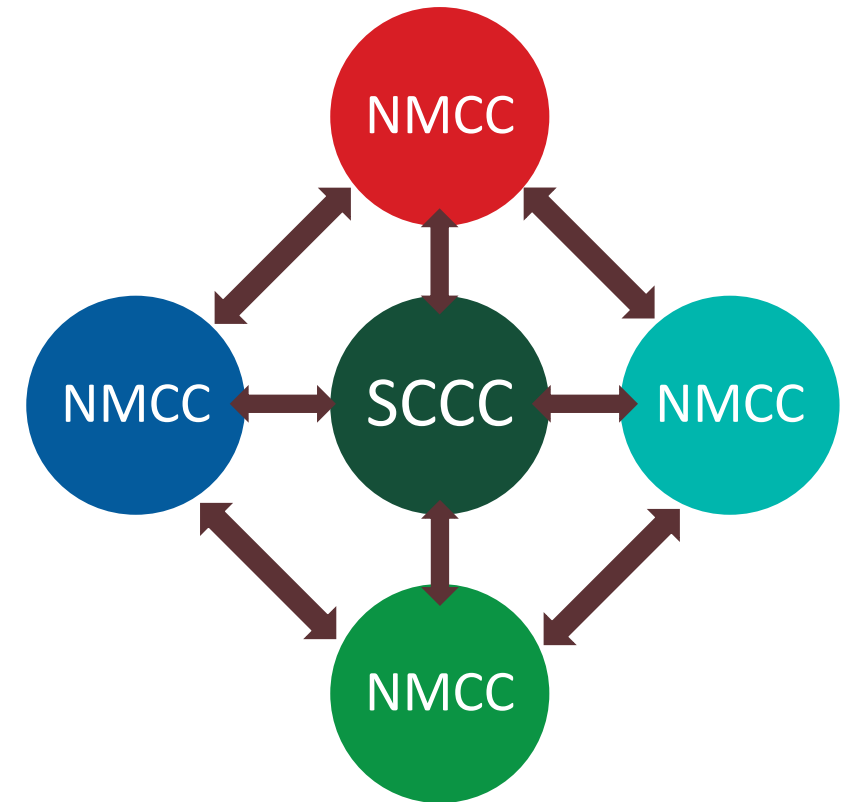


Proposed changes: coordination

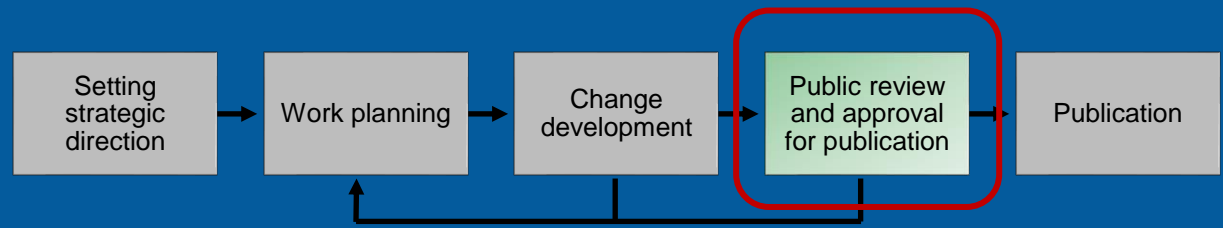


Standing Codes Coordination Committee (SCCC)

- Functions as a hub
- Meets regularly for NMCC chairs to
 - Update each other on progress
 - Address coordination issues with proposed changes
 - Consider potential consequences



Public review



Proposed code changes are sent to public review

Development committees draft resolutions to comments

A recommendation about the proposed change is made to the CBHCC

The CBHCC makes a decision

NMCCs

Development committees

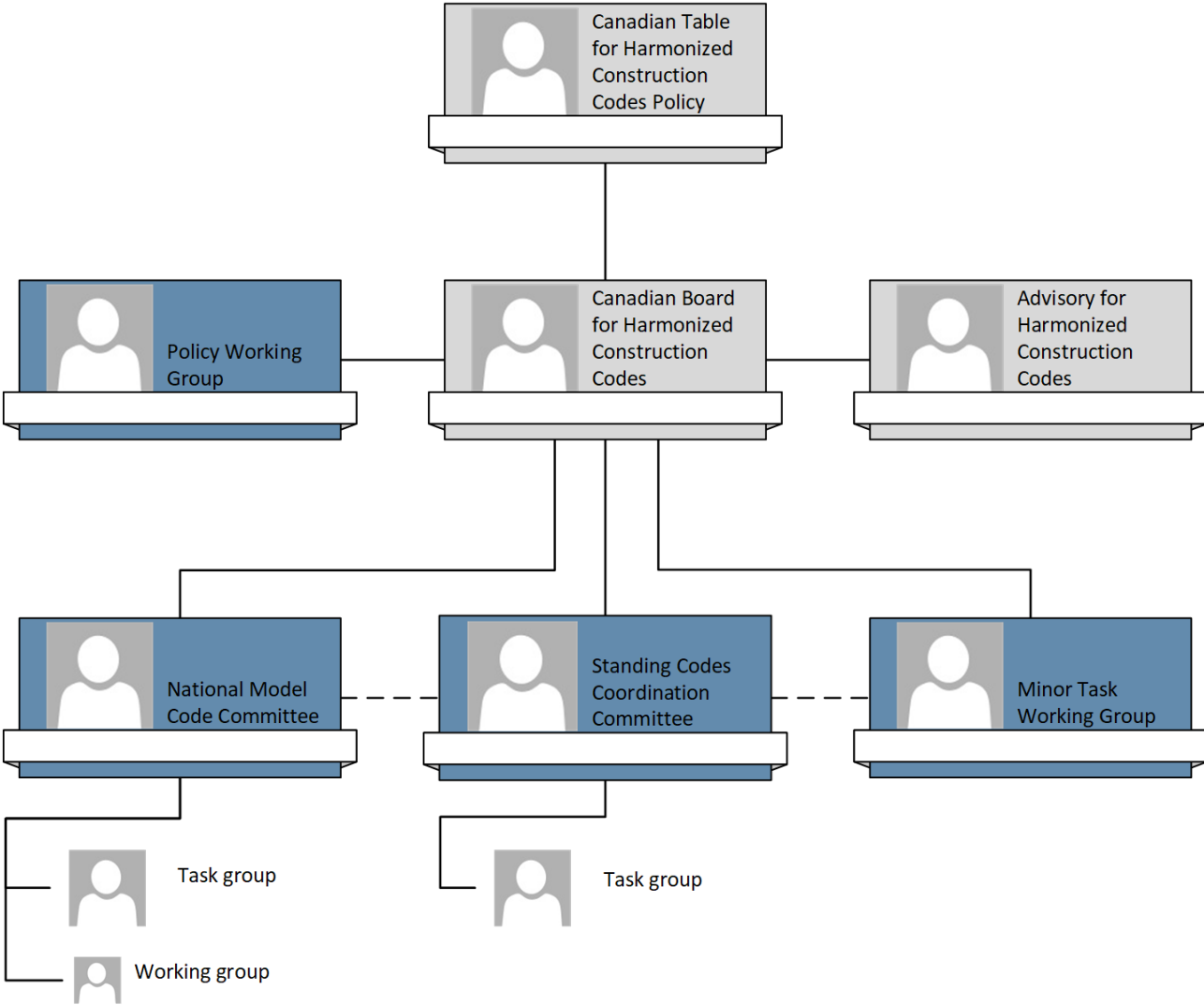


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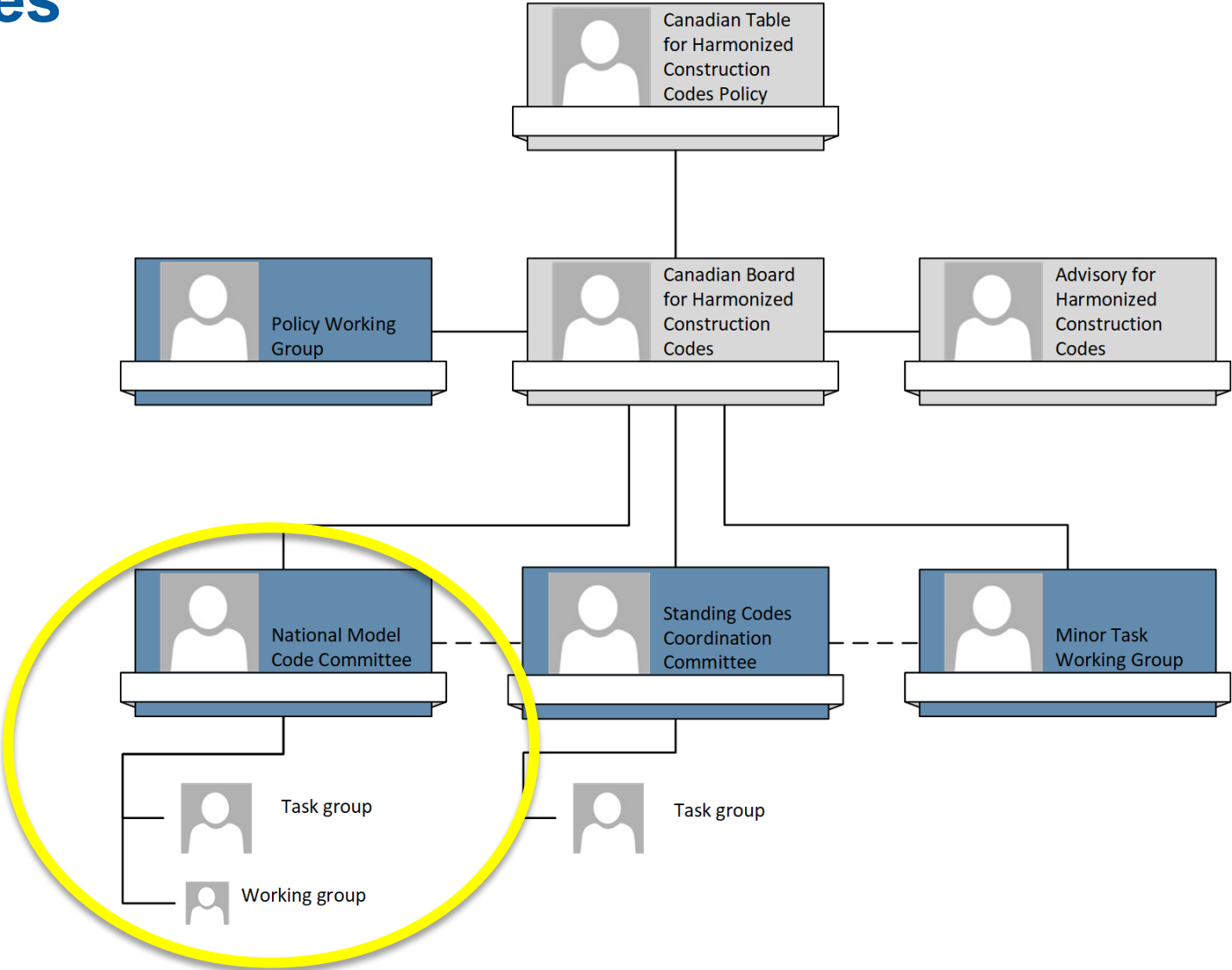
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Development committees



Development committees



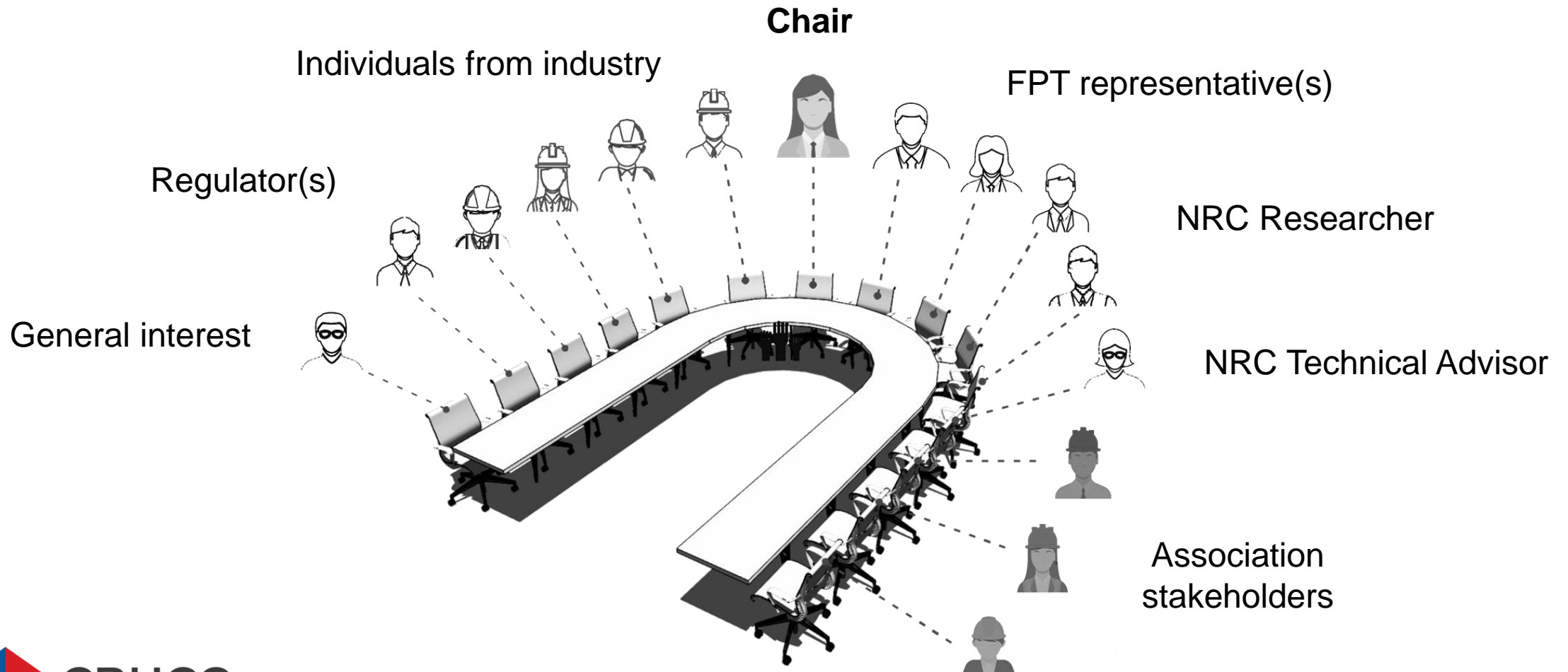
Your appointment to a NMCC

- Reasons for your selection
 - Knowledge of the matters considered by the committee
 - Capacity to contribute to the committee's work
 - Ability to represent a broad interest category, not a specific organization*

- Your appointment is for the duration of the mandate of your NMCC



Meeting participants



NMCC chair

- Sets meeting agendas for NMCC
- Enforces adherence to the ToR
- Leads the group discussion by building consensus
- Assesses consensus
- Enforces the code of conduct



NMCC members

- Bring relevant knowledge to the group
- Selected from three broad sectors
 - Regulatory
 - Industry
 - General interest



Federal/Provincial/Territorial (FPT) representatives

- Are members selected by the CBHCC
- Provide expertise and perspective



Association stakeholders

- Are selected by the CBHCC
- Can participate as a member bringing technical knowledge to the consensus building discussion
- Not part of decisions on recommendations to the CBHCC

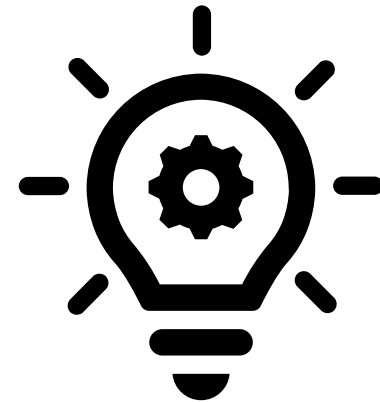


NRC Codes Canada Technical Advisors (TAs)

- Coordinate the work of the group by providing administrative support, including supporting the chair in applying the operating procedures
- Support the chair in building consensus
- Provide technical input on the development of codes, including identifying opportunities for harmonization
- Not included in the assessment of consensus

Observers

- Observe the meeting and, at the discretion of the chair, participate during the meeting
- Not included in the assessment of consensus



NRC Researchers

- Participate as an ex-officio member by bringing technical expertise and coordinating research in support of code development
- Not included in the assessment of consensus





Member expectations

- Respond promptly to availability polls and attend meetings
- Participate in the discussion
- Work within the mandate
- Work to build consensus for developing recommendations
- Participate on TGs and WGs
- Adhere to the CBHCC operating procedures

Meetings

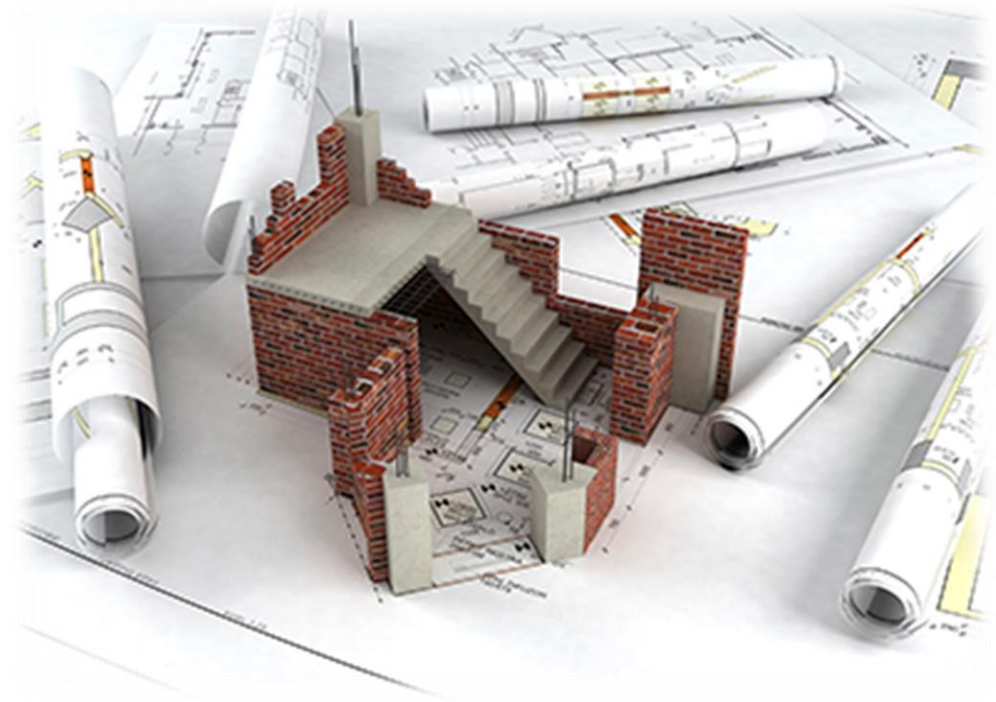
National Model Codes Committees (NMCCs)

Task Groups (TGs)

Working Groups (WGs)

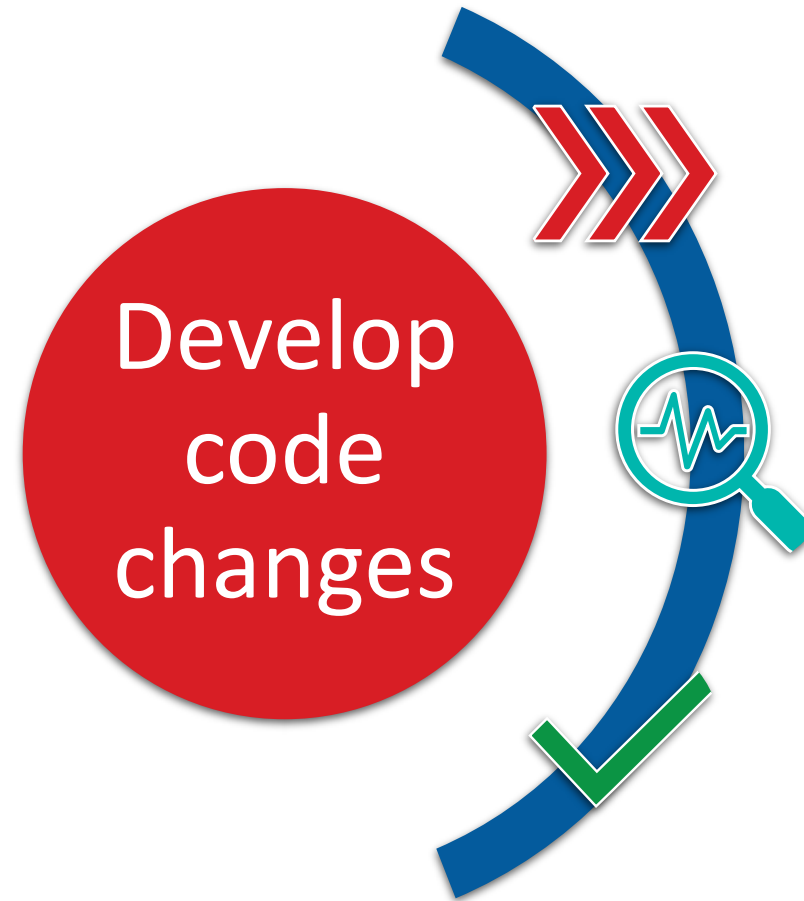
NMCCs

- Struck by the CBHCC in accordance with the work plan
- Established scope and mandate
- Teleconferences and in-person meetings



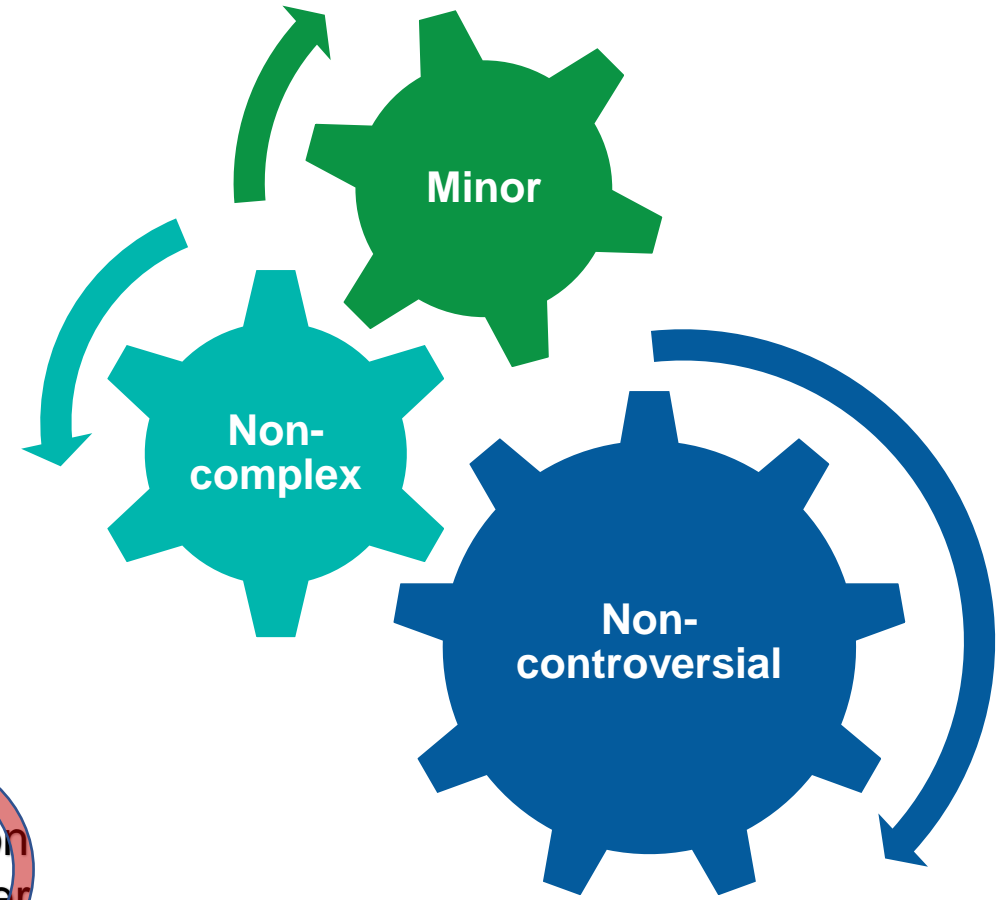
Task Groups (TGs)

- Struck by the NMCC Chair to address specific items within the scope and mandate
- Teleconferences and *may* include in-person meetings



Working Groups (WGs)

- Struck to address specific items within the scope and mandate by either
 - NMCC Chair
 - TG chair
- Teleconferences
- Meetings not open to the public





Before a meeting

- Respond promptly to availability polls
- Notify your TA if you will be absent
- **Review the agenda in advance** ← **this one is really important!**

Quorum (50% of members)—NMCCs

Included

NMCC chair (or delegate)

NMCC members

FPT representatives

Not included

Association stakeholders

NRC Researchers

Technical Advisors

Observers

Quorum (50% of members)—TGs

Included

TG chair (or delegate)

TG members*

*includes representatives from
FPTs and associations

Not included

NRC Researchers

Technical Advisors

Observers



During the NMCC meeting

- Agree to the code of conduct
- Declare any conflict of interest
- Participate through the chair
- When making comments, be concise and stay on-topic
- Participate in building consensus
- Do not use audio or visual recording equipment

Code of conduct

All participants must

- Act with respect towards all contributors in the code development system
- Follow the principles of consensus-building
- When suggesting information for consideration, identify themselves and whether they represent an organization, their role in the meeting, the source of any information to be shared, and their relationship to the information

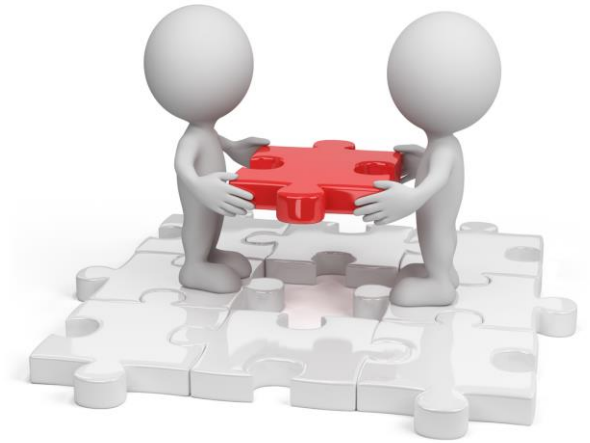
Conflict of interest

- Participants must identify themselves when speaking and identify whether they are representing an organization
- All participants must declare any known real, apparent, or potential conflicts of interest

Conflict of interest is a situation, whether real, apparent, or potential, in which a participant has **private interests that could influence their participation** within the harmonized code development system or in which the participant **could use their role in the harmonized code development system for personal gain.**

Consensus-based recommendations

- General agreement of members on a solution, which includes resolution of all significant concerns and disagreements
- More than the concept of establishing a simple majority but does not necessarily mean unanimity
- Full and fair discussion of the issues involved
- All opinions and perspectives are given careful consideration



After the NMCC Meeting

- Complete any action items assigned to you

Records of discussion

Summary of the development committee's discussion

- the considerations discussed
- the recommendations made
- the rationale for the recommendations
- any unresolved concerns and how those concerns were considered

External communications

Contact us

General enquiries

The Secretary, Canadian Board for Harmonized Construction Codes

Email: CBHCCSecretary-SecretaireCCHCC@nrc-cnrc.gc.ca

Telephone: 1-613-993-9960

Mail: The Secretary, Canadian Board for Harmonized Construction Codes

1200 Montreal Road, building M-20

Ottawa, ON K1A 0R6

Process review request



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Process review request

The harmonized code development system accepts requests to **review recommendations to publish changes to the codes, developed by NMCCs** or minor task working groups reporting directly to the CBHCC, **on grounds that the code development process was not followed.**

Decisions of the Canadian Table for Harmonized Construction Codes Policy and the CBHCC are not subject to review

Process review request

Requests must be received in writing within 15 business days of

a meeting where the recommendation to publish changes to the code were finalized by a **National Model Codes Committee**

OR

a public CBHCC meeting where the recommendation to publish changes to the code as finalized by a **minor task working group reporting directly to the CBHCC** are presented

Stay involved!

www.CBHCC-CCHCC.ca

- Learn about upcoming code development system events and meetings
- Submit a code change request for consideration in future work planning
- Comment on proposed changes during an open public review
- Review the harmonized codes development system operating procedures documents

Travel for in-person meetings



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Travel and meeting planning

Respond to availability polls promptly

- Planning and approvals for in-person meetings take time

Only make travel arrangements after receiving the **final notice** from NRC.CONST-Events-Coordination-Coordination-devenement.CNRC@nrc-cnrc.gc.ca

Travel and meeting planning

- **Flights** – Air Canada flex or equivalent (economy ticket for any airline that offers a refundable ticket)
- **Train** – VIA business class
- **Private/rental vehicle** < 500 km (round trip)
 - seek prior approval if you are travelling via private/rental vehicle > 500 km (round trip)

Seek prior approval if you are travelling to or from a different destination than you indicated on your non-staff travel authority form (NSTAA) (ex: if you are travelling from a secondary residence that was not initially indicated on the NSTAA form)

Permissible travel expenses

- Members, other than association stakeholders
 - per diem for meals, depending on travel status
 - lunches provided cannot be claimed
 - train, private vehicle mileage, car rental, or flight reimbursement
 - you may submit flight reimbursement prior to the meeting
 - no remuneration for time spent at the meeting
- Association stakeholders members
 - no reimbursement for travel expenses
 - free lunches and refreshments provided



Forms after each trip

Members* travel claim

- aim to submit within 10 days after the meeting
- If you do not claim expenses, advise by email ASAP:
NRC.CONST-Events-Coordination-Coordination-devenement.CNRC@nrc-cnrc.gc.ca
- must submit receipts for all expenses (excluding meals)

* Other than association stakeholder members



Thank you!



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Development Committees

Establishment

The Canadian Board for Harmonized Construction Codes (CBHCC) is responsible for the content of the National Model Codes and related guides. When a development committee is struck, it is given provisional responsibility for relevant code content through its mandate. Development committees report to the CBHCC.

Development committees are:

1. the Standing Codes Coordination Committee (SCCC),
2. national model codes committees and their task groups and working groups,
3. minor task working groups, and
4. policy working groups.

Development committees are struck to undertake code development activities in accordance with the approved work plan. Development committees are supported by Codes Canada.

The development committee structure is based on the following principles:

- Agile: national model codes committees, minor task working groups, and policy working groups are struck to address specific mandates. They are discontinued when their mandate is complete or as directed by CBHCC. The SCCC exists on an ongoing basis, and some committees might last several code development cycles;
- Flexible: the number, composition, size, and duration, of each committee is commensurate with its scope and mandate;
- Coordinated: membership of development committees includes relevant representation to encompass a holistic view of issues; and
- Efficient: focused use of system resources to support strategic priorities.

The principles above are reflected in the development committee structure in Figure 1.

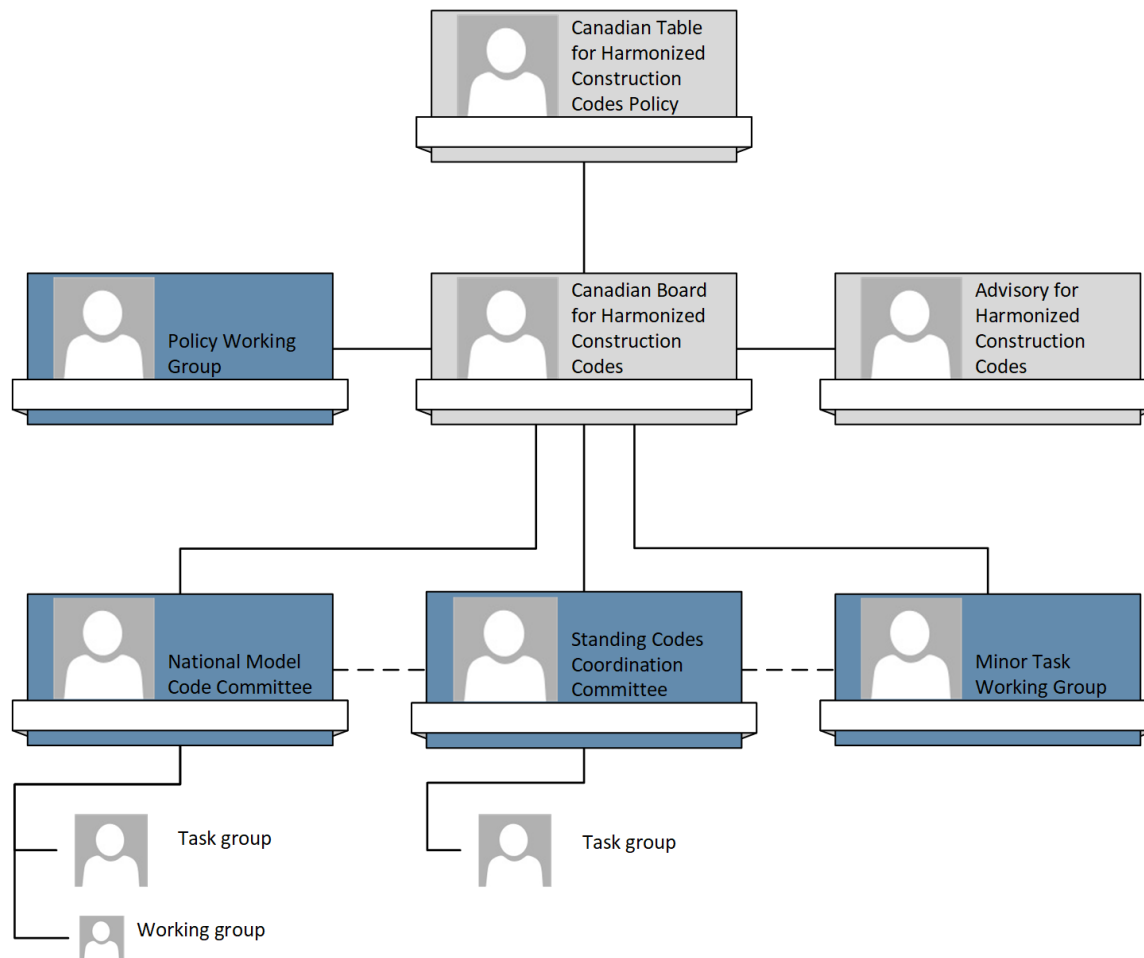


Figure 1: Harmonized Code Development System committees and their relationship to code system governance

Standing Codes Coordination Committee

The SCCC's role is to provide input to ensure holistic consideration of issues. It provides input during work planning and is a forum for information sharing between committees during change development. It may also determine the cumulative impact of changes as directed by the CBHCC. The SCCC exists in accordance with its terms of reference approved by the CBHCC.

The SCCC Chair has the discretion to strike task groups to address requests from the CBHCC to assess the cumulative impact of changes. Membership of its task groups is established by the Chair of the SCCC drawing from the approved SCCC membership and may include additional invited guests.

National model codes committees

A national model codes committee develops recommendations on complex technical subject areas. Terms of reference are approved by the CBHCC.

Subordinate task groups and working groups

Task groups and working groups of the national model codes committee can be struck at the discretion of the national model codes committee Chair, to address specific items within the scope and mandate of their approved terms of reference.

The Chair of a task group is identified by the Chair of the national model codes committee drawing from the approved national model codes committee membership. Membership of the task group is identified jointly by the Chair of the national model codes committee and the chair of the task group and can include members of the national model codes committee and others as required. Membership of working groups is drawn from the membership of the national model codes committee and/or task group **and may include invited guests as required**. [Anyone representing an association is not permitted to attend meetings of minor task working groups or working groups reporting to national model codes committees.](#)

Working groups of national model codes committees generally follow the same operating procedures as minor task working groups.

Minor task working groups

A minor task working group develops a recommendation to the CBHCC on a non-complex technical subject.

Policy Working Group

A policy working group develops recommendations to establish CBHCC positions on policy matters to inform technical development. Policy working groups are restricted to members of the CBHCC or their delegates, with invited guests as required.

Code system communication

Codes Canada facilitates all communication between development committees and with the CBHCC. Development committees are required to report progress to the CBHCC regularly. Questions for clarification arising during code development are promptly referred to the CBHCC for resolution. The CBHCC helps resolve any conflicts between development committees.

National model codes committee chairs are members of the SCCC. National model codes committee and SCCC chairs may participate, as ex-officio members, at meetings of the CBHCC as required.

Appointment of members

Application

Codes Canada receives applications from individuals on behalf of the CBHCC to serve on the SCCC, a national model codes committee and their subordinate task groups and working groups, or a minor task working group.

Selection

General

Members of the SCCC and national model code committees are selected by the CBHCC based on their knowledge, experience and ability to contribute to the scope and mandate of a committee with

consideration of including broad technical and geographical representation. The CBHCC recognizes that there is strength in the diversity and inclusion of various expertise, identities and perspectives, and aims for membership to be representative of Canada's diversity.

The CBHCC approves the membership, including the chairpersonship of the SCCC, and national model codes committees via their terms of reference. **If a member vacancy arises** the CBHCC co-chairs may provisionally appoint a new member as required to suit operational needs, subject to ratification by the CBHCC.

Membership of the development committees is described in Table 1. Table 1 provides notional guidance on the recommended number of members as well as relative percentages of different types of members for balanced consideration. Principles for development committee composition include:

- Number of members from each membership category that is reflective of the scope and mandate described in the terms of reference.
- Membership balanced, as indicated in Table 1, so as not to skew consideration of an issue.
- Membership consisting of representatives with knowledge in the area being developed who will contribute to the discussions.
- Perspectives including a variety of viewpoints.

The CBHCC can appoint associations as members of National Model Code Committees. [Associations including industry associations are permitted to name representatives to attend National Model Code Committee meetings as “association stakeholder” members.](#)

The CBHCC may modify the membership of a development committee at any time. It may also remove a member who fails to participate or does not participate in good faith or does not adhere to the Harmonized Code Development System Operating Procedures.

Table 1: Notional membership matrix and guidance for development committees

Development committee Membership	Policy working group	Standing Codes Coordination Committee	National model codes committee	Task group	Minor task working group
Recommended number of members, excluding NRC technical advisor(s)	3 to 7	No less than 6 ⁸	10 to 25	5 to 10	2 to 3
CBHCC member	Yes	No	No	No	No
FPT representative other than CBHCC member	Yes	No	Yes ¹	Yes	Yes
Non-FPT representative (see additional breakdown of representation below, where applicable)	No ⁹	Yes ³	Yes ^{4,10}	Yes ⁴	Yes ¹²
<i>Regulatory</i> ⁵	-	≈50%	≈25%		
<i>Industry</i> ⁶	-	≈50%	≈40%		
<i>General interest</i> ⁷	-	-	≈35%		
Association stakeholder ¹⁰	No ⁹	No	Yes ¹¹	Yes ⁴	No
NRC researcher	No	No	Yes ^{1,2}	Yes ^{1,2}	Yes ^{1,2}
NRC Technical advisor (support)	Yes	Yes	Yes	Yes	Yes

Yes means, permitted to be a member.

No means, not permitted to be a member.

¹ Excludes Chair role.

² Can participate as an ex-officio member by bringing technical expertise and coordinating research in support of code development, but is not included in the assessment of consensus decisions in developing a recommendation to the CBHCC.

³ Excludes representatives from organizations on the Advisory Council for Harmonized Construction Codes, or anyone representing an industry [or](#) association.

⁴ Excludes Chair role for representatives from organizations on the Advisory Council for Harmonized Construction Codes, or anyone representing an industry [or](#) association.

⁵ Regulatory representation includes persons involved directly in enforcement of regulations on behalf of authorities having jurisdiction (e.g., building officials, plans examiners, inspectors, etc.).

⁶ Industry representation includes persons involved in design, design review, construction review, material and component manufacture, material supply, or construction.

⁷ General interest representation includes, but is not limited to, persons involved in research and testing, building or facility operation and management, standards development, consumer interests, energy utilities, governmental energy management, insurance, teaching and training.

⁸ plus Chairs of national model codes committees.

⁹ invited guests can be included as required.

¹⁰ [Association stakeholders are approved by the CBHCC.](#)

¹¹ Can participate as a member bringing technical knowledge [to the discussions](#), but [is](#) not included in the assessment of consensus [decisions](#) in developing a recommendation to the CBHCC.

¹² [Anyone representing an association is not permitted to be on minor task working groups.](#)

Standing Codes Coordination Committee

SCCC members are appointed in advance of the code cycle for the duration of a code cycle.

Appointment to the SCCC considers the need to maintain continuity and transfer knowledge across code cycles.

National model codes committees

Members of national model codes committees are appointed in accordance with the approved work plan for the duration of the mandate identified in the terms of reference. Mandates that span more than one code cycle are subject to reaffirmation by the CBHCC pending the priority-setting and work planning processes.

Minor task working groups

Minor task working groups are struck as needed throughout the code cycle.

Operations

Consensus

Development committees prepare consensus-based recommendations. Consensus is general agreement of members on a solution, which includes resolution of all significant concerns and disagreements. Consensus implies more than the concept of establishing a simple majority but does not necessarily mean unanimity. Consensus requires that all opinions be considered and weighed and that any statement of agreement should be reached only after full and fair discussion of the issues involved. Negative opinions deserve careful consideration.

Meetings

The SCCC, national model codes committees and their task groups conduct business in open meetings, which observers can attend. Policy working groups and minor task working groups conduct their business in camera. All groups may conduct business between meetings.

Not less than 50% of the members of the SCCC, national model codes committees and their task groups, including the Chair or a delegate appointed by the Chair, **are required to conduct a meeting.**

Participants

Participants include:

- Chair responsible for:
 - setting meeting agendas;
 - ensuring adherence to the terms of reference;
 - leading the group discussion by building consensus;
 - assessing the consensus; and
 - enforcing the Code of Conduct;
- members bring relevant knowledge to the group;
- NRC Codes Canada staff are responsible for:

- coordinating the work of the group by providing administrative support, including supporting the Chair in applying the operating procedures;
- supporting the Chair in building consensus;
- providing technical input on the development of codes, including identifying opportunities for harmonization; and
- observers (for open meetings) observe the proceedings and may participate, at the discretion of the Chair, during the meeting.

Code of Conduct

All participants must:

- act with respect towards all contributors in the code development system;
- follow the principles of consensus-building; and
- when suggesting information for consideration, identify themselves and whether they represent an organization, their role in the meeting, the source of any information to be shared and their relationship to the information.

Conflict of Interest

Conflict of interest is a situation, whether real, apparent, or potential, in which a participant has private interests that could influence their participation within the Harmonized Code Development System or in which the participant could use their role in the Harmonized Code Development System for personal gain.

A real conflict of interest exists at the present time. An apparent conflict of interest is a situation that could be perceived as a conflict of interest, by a reasonable observer, whether or not it is the case. A potential conflict of interest could reasonably be foreseen to happen in the future.

Participants must identify themselves when speaking and identify whether they are representing an organization. All participants must declare any known real, apparent, or potential, conflicts of interest. Subject to National Model Code Committee agreement, members who have a conflict of interest may participate in National Model Codes Committee and Task Group discussions as observers. Members who have a conflict of interest are not permitted to participate in [minor task working groups or](#) working group discussions.

The chair will facilitate fair and balanced discussion of all matters. Members who have a conflict of interest are not permitted to chair discussions related to matters for which they have a conflict.

Record of Discussion

Codes Canada prepares a summary of the development committee's discussion after each meeting to capture the considerations discussed and the recommendations made including the rationale for the recommendations, any unresolved concerns and how those concerns were considered. The record of discussion also includes any declarations of conflicts of interest and how they were addressed, either in advance of, or during the meeting. The record of discussion is validated by the relevant development committee electronically and/or at the following meeting. Actions arising from the meetings are tracked to resolution.

External Communications

All written and oral communications with respect to the Harmonized Code Development System is done by the CBHCC or a delegated authority.

Version Tracking

Version	Summary of changes	Date approved by CBHCC
1.0	Initial version	2024-01-25
1.1	Editorial and minor changes	2024-03-28
1.2	Revised to include association stakeholder members	=