Lethbridge

AMA Regional Meeting

Electrical, Plumbing, Gas, Private Sewage, Building and Fire
**AGENDA**

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<td>LUNCH</td>
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AMA Updates – Joint Session

Builders Licensing
Regulations currently sit with the Cabinet for approval. The timeline in this document may change, depending on Cabinet’s directive.

Overview
In its aim to strengthen protection of consumers who purchase a new home, the New Home Buyer Protection Amendment Act, if passed, will create a Builder Licensing Program. The Bill is anticipated to come into force December 2017.

The Program will require potential builders to first obtain a license in order to build as a requirement for obtaining warranty coverage and building permits in Alberta. To ensure construction activities are not disrupted, the program will be phased in at the enforcement date with full implementation planned for May 1, 2018.

The Amending Act requires all new homes to be built by someone with either a valid builder’s license or an owner builder authorization. This means that going forward, all owner builders must apply for an authorization regardless of whether they are choosing to build with or without warranty.

AMA website: http://municipalaffairs.alberta.ca/builder-licencing-faqs
AMA Updates – Joint Session

Permit Regulation Review
Permit Regulation is under review but not for broad amendment this term. The current Permit Regulation expires on January 31, 2019.

There is likely to be solicitation for stakeholder input on potential changes but no changes to the permit regulation until after 2019, unless the changes are needed to accommodate other legislation.
What is a Kitchen?
Kitchen counter and fridge receptacles are exempt from CAFCI protection. Yet where a wet bar is installed with the same design, because not considered a kitchen, both CAFCI and TR requirements are enforced. What defines a kitchen?

After some discussion it appears that a range is still a key factor in defining a space as a kitchen. Rooms not defined as kitchens are not AFCI protection exempt under CEC 26-724 (f).

If a room has a sink, dedicated counter receptacles, a microwave, and fridge circuits in place, should meet the intent of a kitchen as laid out by the CEC. A wet bar counter with a shared circuit receptacle for a blender and bar fridge may not be considered a kitchen.

In summary, wet bar receptacles require AFCI protection regardless of intended use such as counter receptacle or fridge. As currently written, only fridges in kitchens are AFCI exempt. There is no dedicated circuits required by code on wet bar counters. GFCI protection for receptacles near sinks is still required, as per CEC 26-700 (11).
Air Admittance Valves
There has been considerable discussion regarding Article 2.5.9.2.1 (d) of the National Plumbing Code of Canada which allows for the installation of an Air Admittance Valve where connection to a vent may not be practical.
What are your thoughts?

Air Admittance Valves
1) Air admittance valves shall only be used to vent
a) fixtures located in island counters,
b) fixtures that may be affected by frost closure of the vent due to local climatic conditions,
c) fixtures in one- and two-family dwellings undergoing renovation, or
d) installations where connection to a vent may not be practical.
Construction Heat using a Residential Furnace

What are the requirements surrounding the use of the installed residential furnace as the appliance providing temporary heat during construction? What is everyone accepting?

A STANDATA is being drafted which will be taken to the Gas Sub Council, to provide parameters around the use of furnaces installed during the construction of a home, as the means of providing heat during construction.

A change in manufacturers certified installation instructions for residential style furnaces was made on May 1, 2017. This change restricts these furnaces from being used to heat buildings which are under construction or being renovated. Buildings would be considered under construction or renovation where dusty conditions may be created from installing drywall or textured finishes are present.
Non-Metallic Electrical Boxes

When a non-metallic rated box is installed within the same stud space in a rated wall assembly, is firestopping required?

Non-metallic electrical boxes are used in construction quite frequently. When these boxes are used in fire separations, a non-metallic box is permitted as long as it does not exceed 160 cm² in size.

Where these boxes are within the same stud space in a fire separation, the boxes must be protected by means such as drywall boxes or putty packs.

9.10.9.6. Penetration of Fire Separations

8) *Combustible* outlet boxes are permitted in an assembly required to have a fire-resistance rating without being incorporated in the assembly at the time of testing as required in Sentence (3), provided the opening through the membrane into the box does not exceed 160 cm².
Definition of Private vs Public

When is a washroom considered private rather than public?

The National Plumbing Code requires each lavatory in a public washroom to be equipped with a device capable of automatically shutting off the flow of water when the lavatory is not in use. Examples of these types of water shut-off devices include occupant sensors and self-closing valves.

Private use (as applying to the classification of plumbing fixtures) means fixtures in residences and apartments, in private bathrooms of hotels, and in similar installation in other building for one family or an individual.

Public use (as applying to the classification of plumbing fixtures) means fixtures in general washrooms of schools, gymnasiums, hotels, bars, public comfort stations and other installation where fixtures are installed so that their use is unrestricted.
Upcoming STANDATAS

Wireless Interconnection of Smoke Alarms (14-BCI-XXX)
To provide clarification on what is meant in the Alberta Building Code 2014 (ABC 2014) by interconnected smoke alarms, and to recognize the appropriate application of listed devices that perform this function using wireless technology.

APPLICATION
This STANDATA applies where smoke alarms are required to be interconnected under the ABC 2014, so that the actuation of one smoke alarm will cause all interconnected smoke alarms within the dwelling unit or house with a secondary suite to sound.

INTERPRETATION
A smoke alarm that is certified in conformance with CAN/ULC-S531, “Smoke-Alarms” and uses wireless interconnection technology is an acceptable means of meeting the interconnection requirements of Sentence 3.2.4.21.(9) and Sentences 9.10.19.5.(1) and (2).
Breakout Session Locations

Electrical Meeting – Harvest Room
Plumbing, Gas & PSDS Meeting – Studio 1 Room
Fire / Building Meeting – Chinook Room
Joint Fire / Building Meeting
AMA Updates – Joint Session
Harmonization of the Alberta Codes

This is a priority ongoing process between Code update and Harmonization using the NBC 2015 as a Base document. The comparison review and analysis between the NBC 2010 – NBC 2015, as well as comparing to the ABC 2014 for Alberta specifics and where we can update and Harmonize towards the National Codes.

At this time, we have a goal of automatic code adoption of the NBC 2020 with a supplement to address the retained Alberta Specific requirements.

The NBC 2020 expected publication date may be around December 2020 or January 2021. Automatic code adoption in Alberta would come into effect one year after publication.

Section 3.8 and Part 7 has a number of Alberta Specifics and at this time is being retained, such differences would go into the supplement.

Administrative requirements have Alberta Specifics which will be retained.

There is a ULC standards committee currently drafting up a National Standard for Relocatable Structures, using ABC Part 10 as the seed document. This should address ABC specific Part 10.

Only the Edmonton Airport Vicinity is currently affected by ABC Part 11 and there is currently a review in process for the AVPA, this may address the retention of Part 11 in the ABC.

This is a brief overview of the extensive review process and all items may not have been captured, but to give you an idea of our direction towards updating and Harmonization.
AMA Updates – Joint Session
Next Code Cycle

The Government of Alberta is currently reviewing the possibility of skipping the next Code cycle which was to be based on the NBC 2015. The proposal has gone forward to the Minister, and is waiting final response.

This was a proposal which was originally brought forward by the Building Sub-Council, and which seems to be the same viewpoint from most SCO’s when asked for comment.
NFPA 96 – Annunciation for Commercial Kitchens

NFPA 96-11 is the standard for hood fans over commercial cooking appliances. In that standard, section 10.6 discusses system annunciation. If the building has a fire alarm system and the hood fan fire suppression system goes off, 10.6.2 requires the suppression system to activate the fire alarm (and annunciate as a separate zone). This seems to be consistently applied.

What is not consistently applied is 10.6.1 for annunciation if the building DOES NOT have a building-wide fire alarm system. What are SCO’s accepting?

NFPA 96

10.6 System Annunciation.

10.6.1 Upon activation of an automatic fire-extinguishing system, an audible alarm or visual indicator shall be provided to show that the system has activated.

10.6.2 Where a fire alarm signaling system is serving the occupancy where the extinguishing system is located, the activation of the automatic fire-extinguishing system shall activate the fire alarm signaling system.
Alternative Solution Proposals and Acceptance

When should an alternative solution proposal be accepted by the local AHJ?

Alternative solution proposals are required by both the ABC and the AFC to achieve at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statement attributes. All proposals must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B – not “well enough,” but “as well as”.

1.2.1.1. Compliance with this Code
1) Compliance with this Code shall be achieved by
   a) complying with the applicable acceptable solutions in Division B (see Appendix A), or
   b) using alternative solutions that will achieve at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the applicable acceptable solutions (see Appendix A).
Upcoming STANDATAS

Door Release Hardware for Exit Doors (14-BCV-000)
To provide a compliant means to reduce the probability of wandering occupants unknowingly exiting a building or supervised area and exposing themselves or others to undue risks, while still maintaining an acceptable level of safety for the occupants of the building.

APPLICATION
This Variance applies to doors in Group B, Division 2 and Division 3 occupancies.

VARIANCE
This variance, which can be applied to new and existing buildings, provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by the Safety Codes Act, the ABC 2014 and the AFC 2014.
Upcoming STANDATAS

Buildings Used for Parking, Repairing and/or Servicing Tank Vehicles (14-BCB-XXX)

Tank vehicles containing flammable liquids or vapours or combustible liquids or vapours present a unique hazard when they are brought into a building. In addition to the hazard inherent in the product itself, there is a potential for the release of flammable or combustible vapours in significant quantities that can overwhelm a standard ventilation system for a building and become a fire or explosion risk.

1. Buildings to be used for parking tank vehicles which contain flammable or combustible gases or vapours (classified as Group F, Division 1, high hazard industrial occupancies),
2. Buildings to be used for parking, repairing and/or servicing tank vehicles (classified as Group F, Division 2, medium hazard industrial occupancies),
3. Buildings containing both uses, parking tank vehicles that contain flammable or combustible gases or vapours classified as Group F, Division 1 (F-1) according to Sentence 1, and parking, repairing and/or servicing tank vehicles classified as Group F, Division 2 (F-2) according to Sentence 2 provided:
Existing Non-Permitted Secondary Suites

The existing Fire STANDATA FCI-08-07 speaks to secondary suite construction exiting prior to December 31, 2008.

What should a Building SCO do to ensure conformance of a secondary suite developed after 2008?

What are you doing?

The previous Standata provided an option for a Safety Codes Officer, when reviewing existing secondary suites constructed prior to December 31, 2008, to use their discretionary powers to alleviate any safety concerns they may have with the suite.

FCI-08-07 Secondary Suites STANDATA

“This Interpretation Bulletin supports the intent to give owners of existing secondary suites time to bring their properties into compliance with the AFC requirements;…”

“Requirements in the Alberta Building Code for secondary suites have been adopted and came into force on December 31, 2006, and apply to all new construction.”
Breweries vs Distilleries

What is the difference between a Brewery and a Distillery?
Distilleries are referenced within the Alberta Fire Code. Distilleries are occupancies where the distilled beverage alcohol content is more than 20% by volume of alcohol. Distilleries should only be classified as F1 Occupancies. Micro-breweries where the alcohol content by volume is less than 20%, can be reviewed as other occupancy classifications.

Section 4.10. Distilleries
4.10.2.1. Building Classification
1) Except as provided in Sentence (2), buildings or parts of buildings in which distilled beverage alcohol is distilled, processed or stored in bulk shall be classified as high-hazard industrial occupancies.

Distillery means a process plant where distilled beverage alcohols are produced, concentrated or otherwise processed, and includes facilities on the same site where the concentrated products may be blended, mixed, stored or packaged.

Distilled beverage alcohol means a beverage that is produced by fermentation and contains more than 20% by volume of water-miscible alcohol.
Bedroom egress Windows Under Decks

When a bedroom egress window exits under a deck, what clearances should the deck have to ensure proper evacuation?

Where a bedroom egress window is situated below an exterior deck, a concern of whether or not safe evacuation has been provided comes into question. There are some municipalities who have mandated that a minimum headroom clearance be maintained under the deck, for an egress window to open into that area.

The ABC is silent on this piece, and only requires a minimum egress dimension of 380mm and a minimum opening size of 0.35m² to be provided. Additionally, the ABC requires that where a window well is installed, that the clearance between the window sash and grade maintain a minimum clearance of 760mm.
Afternoon Break Out Session Locations

Fire Meeting – Green Lakes Room

Building Meeting – Chinook Room
AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas
& Private Sewage

October 25, 2017
8:30 am – 4:00 pm

Lethbridge
Sandman Hotel
421 Mayor Magrath Drive South
Chinook Room
AMA Regional SCO Meeting
Fire/Building Break-Out Session
10:20pm – 11:45 pm
Chinook

AGENDA

10:20 pm – 10:30 pm  General Updates from AMA
  • Code Harmonization
  • Next Code Cycle

10:30 pm – 11:45 pm  Joint Fire/Building Break-Out Session
  • NFPA 96 – Annunciation for Commercial Kitchens
  • Alternative Solution Acceptance
  • Door Release Hardware for Exit Doors STANDATA
  • Buildings Used for Parking, Repairing, and or Servicing Tank Vehicles STANDATA
  • Existing Non-Permitted Secondary Suites
  • Micro-Breweries Vs Distilleries
  • Bedroom Egress Windows under Decks

LUNCH 11:45 am – 12:45 pm
Sponsored by the Safety Codes Council

Building Break-Out Session 12:45pm – 4:00 pm
Chinook

12:45 pm – 1:15 pm  General Updates from AMA
  • Standa – New & Upcoming
  • Brochures / Energy Q&A / Energy Check Sheets
  • Mobile Cooking Operations Standata

1:15 pm – 2:00 pm  Discussion Topics / Questions
  • NECB Professional Responsibility
  • Application of NECB to Additions
  • Door Release Hardware
  • Cancellation of New Home Buyer Insurance
  • Application of 9.36 to RTM’s
  • Enforcement of Fire Safety Plans

COFFEE BREAK
2:00 pm – 2:20 pm
Sponsored by Safety Codes Council

2:20 pm – 4:00 pm  Discussion Topics / Questions
  • Spray Foam Over Ducts
  • Attached Garages and Compliance (9.36.1.3.(5))
  • Marijuana Greenhouse Grow-Ops
  • Multiple Tenant Self Storage
  • Make Up Air for Depressurization
  • Pipe Insulation
  • 9.36 and Heatloss
Brochures

Safety Tips
The new updated brochures are now available on the GoA website. All documents are PDF and printable from the website when opened.

Alberta Municipal Affairs Website:

Safety Codes Council Website:
http://www.safetycodes.ab.ca/Public/Pages/Safety-Tips.aspx

To obtain tri-fold brochures contact
safety.services@gov.ab.ca
Energy Efficiency Q & A

Check Sheets

A Question and Answer document for some of the common questions surrounding energy efficiency under Section 9.36 is also available on the GoA website.

Alberta Municipal Affairs Website:
http://www.municipalaffairs.alberta.ca/CP_Energy_Codes_Information

All documents are printable from the website when opened.
Energy Efficiency Check Sheets

Check Sheets
The GoA website now has available a document to assist industry and SCO’s with examples of check sheets, trade-off sample calculations, and a project summary.

Alberta Municipal Affairs Website:
http://www.municipalaffairs.alberta.ca/CP_Energy_Codes_Information

All documents are printable from the website when opened.
STANDATA Updates
New & Proposed

Variances

14-BCV-001 Joint Fire/Building Code Variance-Construction Site Fire Safety Plans

14-BCV-002 Tall Wall Generic Engineered Details
To recognize the acceptability of the values within the “Guidelines for the Construction of Residential Tall Walls” prepared by Grubb Engineering Corporation.

14-BCV-003 Wind Data for Low-Rise Buildings Guideline
To recognize the acceptability of the values within the “Guideline for specifying the required NAFS ratings of fenestration in low-rise buildings applicable to Part 9 of Division B of the Alberta Building Code 2014,” as prepared by Berkeley Vadocz Engineering Inc. (Issued May 11, 2016)

14-BCV-004 Spans for Joists, Rafters and Beams
To recognize the acceptability of the values within the “The Span Book” published by the Canadian Wood Council.

14-BCV-005 CSA-A277-16 Procedure for Certification of Prefabricated Buildings, Modules, and Panels
To recognize the acceptability of CSA-A277-16 “Procedure for certification of prefabricated buildings, modules, and panels”.

14-BCV-006 Elevators and Passenger-Elevating Devices
This STANDATA has been developed regarding the use of a passenger elevator where a lift for persons with physical disabilities (LPPD) that conforms to the CSA-B355 standard would suffice to meet the requirements of a barrier free path of travel.

14-BCV-007 Interior Stairways for Roof Access
This STANDATA has been developed to allow the use of fixed attic folding stairs, rung-type ladders or “ship’s ladders/ fixed industrial stairs” in place of the interior stairways required by the Alberta Building Code 2014 (ABC 2014).

14-BCV-008 Separation of Suites in Strip Malls
Many smaller malls, commonly referred to as “strip” malls, do not include an enclosed public corridor as each suite exits directly to the outside. In these cases, must suites of business and personal services and mercantile occupancies be separated from each other by fire separations in accordance with Sentence 3.3.1.1.(1) or 9.10.9.13.(1)?
14-BCV-009 Polyethylene Film for Greenhouse Enclosure
The purpose of this STANDATA is to allow the use of products specifically designed for commercial greenhouse facilities occupied only by greenhouse staff, where members of the public are not permitted access.

14-BCV-000 CSA-S16-14 Design of Steel Structures
To recognize the acceptability of CSA-S16-14 "Design of Steel Structures."

14-BCV-000 Oil and Gas Processing Facilities
The Alberta Building Code 2014 (ABC 2014) for small high hazard industrial occupancies do not address the hazard presented by these buildings as effectively and efficiently as possible for small production facilities.

This STANDATA applies to oil or gas processing buildings that are
1. considered as low human occupancy buildings,
2. located outside of urban areas, and
3. used to house oil and gas processing equipment, such as
   a. compressor stations,
   b. heater packages,
   c. pump packages,
   d. separator packages,
   e. treater packages,
   f. dehydrator units,
   g. field equipment,
   h. L.P.G. handling facilities,
   i. refrigeration process units,
   j. oil batteries, and
   k. similar types of buildings.

14-BCV-000 Energuide Rating System for New Homes
This STANDATA has been developed to acknowledge similarities between ABC 9.36.5. energy modeling requirements and the Energuide Rating System v15 for homes.

This use of a modified ERS v15 certification is an acceptable compliance path in addition to the prescriptive, trade off and Subsection 9.36.5 performance path and the NECB as stated in 9.36.1.3. (1), provided some conditions itemized within the STANDATA are met.
Interpretations

14-BCI-002 Visual Signals
The purpose of this Standata is to clarify the intended locations for Visual Signal Devices under the Alberta Building Code 2014 (ABC 2014).

14-BCI-004 Mechanically Vented Appliances
This STANDATA has been developed to provide clarity to safety codes officers and industry stakeholders as to what types of appliances are considered to meet the definitions of *mechanically vented* and *direct-vented* in the Alberta Building Code 2014 (ABC 2014) and, subsequently, when make-up air would need to be provided within a dwelling unit to protect against the effects of depressurization.

14-BCI-005 Rooms Containing Gaseous Chlorine
The purpose of this STANDATA is to provide guidance as to what is meant by “mechanical proportioning device” and how to achieve a reasonable measure of “gas-tightness.”

14-BCI-006 Barrier Free Design Requirements
Barrier-free design requirements apply to all buildings as specified in Article 3.8.1.1. Application. All new builds, including additions, are expected to comply with all barrier-free design requirements. There are various occupancy types where people with disabilities are unemployable for reasons of safety, and would be exempt from providing barrier-free design requirements.
A Pre-Assessment for Relaxation of Barrier-Free Requirements form must be attached to all barrier-free relaxation requests. This form must be signed by the local AHJ, and the submitted drawings noted as being reviewed by the local AHJ.

14-BCI-XXX Application of Energy Efficiency Requirements to Existing Buildings
This STANDATA was developed to clarify the application of energy efficiency code requirements to existing buildings. The installation or replacement of one piece of equipment or renovation of a building would not adversely affect the overall energy usage of the building as a whole. Under the requirements of the Government of Canada Energy Efficiency Act and regulations installation of new equipment or renovations using current energuide products and construction practices would be more energy efficient than the existing building conditions.

14-BCI-XXX PIB-XXX Joint Building Code Interpretation/ Plumbing Information Bulletin, Radon-Soil Gas Vent Termination
This Standata is to provide direction for Soil Gas Vent Termination when an active soil depressurization (ASD) system is installed.
14-BCI-XXX Photoluminescent Exit Signs
This Standata was developed to provide clarification regarding the required illumination of photoluminescent (PL) exit signs according to Articles 3.4.5.1 and 9.9.11.3. of the Alberta Building Code 2014 (ABC 2014).
CAN/ULC-S572 “Photoluminescent and Self-Luminous Signs and Path Marking Systems” is the standard to which PL exit signs are to be constructed in conformance with as per the ABC14.

14-BCI-XXX Attached Garage Insulation
This Standata was developed to provide a consistent approach to the insulation of attached garages, at the walls and ceilings adjacent to unconditioned space or the exterior.
The principle objective of the attached garage insulation in conjunction with the air and vapour barrier is to reduce the probability of damage to or deterioration of building or facility elements.

14-BCI-XXX Interconnected Smoke Alarms
To provide clarification on what is meant in the Alberta Building Code 2014 (ABC 2014) by interconnected smoke alarms, and to recognize the appropriate application of listed devices that perform this function using wireless technology.
Interconnection has been achieved by hardwiring the smoke alarms to each other so that the activation of one smoke alarm will cause all the interconnected smoke alarms to sound. With the advent of wireless interconnection this same function can be provided wirelessly. It must be noted that at least two certified smoke alarms with wireless capabilities are needed for this interconnection to occur.

14-BCI-XXX Non-Liquid Disposal Systems
To provide guidance related to installations of Non-Liquid Disposal Systems.
A non-liquid disposal system as related to this Standata is not a:
- plumbing system
- water-closet
- plumbing fixture
- chemical toilet
Therefore these systems fall within the scope of the Building Discipline. A non-liquid disposal system is considered as, other means for the disposal of human waste.

14-BCI-XXX Application of ABC for Structural Insulated Panels
The Standata is to present the issue of how to consider Structural Insulated Panels (SIPs) under the Alberta Building Code 2014 (ABC 2014) in single family, duplex and row house construction, and the professional involvement requirements.
STANDATA Updates
New & Proposed

Bulletins

14-BCB-001 Steel Building Systems
This bulletin is to emphasize the importance of compliance to the CSA A660 standard by responsible persons under the Safety Codes Act including manufacturers, designers, vendors and owners, as well as to provide guidance for safety codes officers and local authorities in applying the requirements of the Alberta Building Code (ABC) 2014 for steel building systems.

How Do I Find Out if a Manufacturer is Certified to CSA A660?
A list of certified manufacturers can be accessed through the web site of the Canadian Welding Bureau (CWB Group) at https://www.cwbgroup.org/services/certified-directory-search or under Certified Directory Search. Be advised that this list can change frequently as new companies are certified.

14-BCB-002 Roof Anchors
The purpose of this STANDATA is to describe situations where roof anchors are required in the Alberta Building Code 2014 (ABC 2014).

This Bulletin was developed to identify the requirements within the Alberta Building Code 2014 (ABC 2014) for labeling of radon/soil gas pipes.

14-BCB-XXX Spray Foam Insulation-Hybrid Assemblies and CAN/ULC S705.2
This Bulletin was developed to inform the industry of situations where 2lb. (closed cell) spray foam is being applied over 1/2 lb. (open cell) spray foam insulation in buildings. The Standata is to inform builders that installing 2 lb. spray foam over 1/2 lb. spray foam is not an acceptable practice unless testing has been conducted in accordance with CAN/ULC S705.2 and approval for this type of installation has been identified in the product CCMC evaluation report. Documentation providing evidence of testing and approval must be provided to the Authority Having Jurisdiction prior to this "hybrid" system being used within their Jurisdiction.

14-BCB-XXX Firestop Technical Judgements
This Standata was developed to provide guidance on where an Engineering Judgement for Firestop Systems may be considered as an acceptable solution under Division B or as an alternative solution under Division A of the Alberta Building Code 2014 (ABC 2014). For the purpose of this Standata Engineering Judgements shall be referred to as Technical Judgements (TJ). The Standata includes a Table to assist with determining what documentation is required for most situations.
14-BCB-XXX Walkways and Guardrails
This bulletin has been developed to inform designers, vendors, builders, contractors and owners of the minimum requirements to ensure safe installation of gas appliances in Alberta.

- Be advised that it is reasonable to consider the degrees of a roofs slope within the application of Code Clause 4.14.6(a),

- An appliance installed on the roof that has a slope equal to or greater than 4° (7%, ~1 in 12), will fall within the scope of Clause 4.14.6(a) and require a suitable antiskid walkway and guardrails.

- All other code requirements shall be required to ensure proper accessibility of rooftop appliances are maintained for installing, servicing, and inspection, such as but not limited to:
  - CSA-B149.1 Clause 4.14 Accessibility,
  - CSA-B149.1 Clause 6.25 Rooftop gas piping and tubing.
  - Alberta Building Code.

14-BCB-XXX Permit Application for a Residential building with Multi-Units
There have been situations where applications are being requested for each unit in a building with multiple-units (i.e. semi-detached, duplexes, multi-plexes, row-housing, townhouses).

A single building permit is required for each building, not a permit for each unit within the building.

Exception where a property line divides a duplex, requiring the construction of a firewall which can be constructed as a party wall; thus providing for a two building scenario for the purposes of requesting a building permit application for each of the properties.
STANDATA Update

Mobile Cooking Operations

The Administrators from the Fire, Building, Electrical, Plumbing and Gas disciplines have come together to write the STANDATA. The concept of the STANDATA has also been taken to the Sub-Councils, in which it appears that there is support for the writing of the STANDATA.

MA is taking the stance that although these structures are not considered to be “buildings”, there are certain aspects of the facility which should be compliant to the Codes in Alberta. An example being a Ventilation and Fire Suppression system as per NFPA 96. We are currently working with NFPA and our legal department to alter the documents to reflect the requirements under the Alberta Fire Code, Electrical Code, Plumbing and Gas codes.

Once this STANDATA is complete, it will be reviewed by the Fire Sub Council, Electrical Sub Council and Plumbing and Gas Sub Council before it is published to our website.
Schedules and Engineers Responsibilities

Question:
Now that the schedules have been updated and the registered professional that signs the schedule will be ultimately responsible for the NECB, if that project NECB submission is a model, will the Reg. Prof. have to be responsible for the input and output of the model for his discipline regardless of the modeller’s qualifications?
The Registered Professional of Record who completes the schedules, is responsible for ensuring that the design work and field reviews for the components of the project which they are responsible for, will comply with the ABC. When signing the schedules, they agree to this statement.

Should an registered professional of record utilize a specialty engineer to complete a design on his/her behalf, such as that of an energy consultant, the registered professional of record is still ultimately responsible. The APEGA - Responsibilities for Engineering Services for Building Projects document identifies the responsibilities for both parties.

Background Information:
2014 Alberta Building Code
2.4.3. Schedules of Professional Involvement (See Appendix B.)
2.4.3.1. Owner
1) Before beginning construction, the owner shall
   a) retain a coordinating registered professional to coordinate all design work and field reviews of the registered professionals required for the project in order to ascertain that
      i) the design will comply with this Code and other regulations made pursuant to the Safety Codes Act, and
      ii) the construction of the project will substantially comply with this Code and other regulations made pursuant to the Safety Codes Act, (see Appendix A),
   b) retain registered professionals of record to complete design work and field review required for the project, and
   c) provide the authority having jurisdiction with letters in the forms set out in Schedules A-1, A-2, B-1 and B-2 (see Appendix A).

2.4.4. Responsibilities
2.4.4.1. Registered Professional
2) A registered professional of record shall
   a) sign and seal the drawings required in support of the building permit application,
   b) ensure that drawings comply with the requirements of this Code,
   c) ensure that field reviews that are necessary to comply with Clause (b) are completed, and

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d) provide a letter to the coordinating registered professional in the form set out in Schedule C-2 stating that components of the project for which the registered professional is responsible are constructed so as to substantially comply with
   i) the plans and supporting documents, and
   ii) the requirements of this Code.

APEGA
Responsibilities for Engineering Services for Building Projects - March 2009
3.7 GENERAL RESPONSIBILITIES OF ORGANIZATION PARTICIPANTS
3.7.3 All Registered Professionals of Record
As defined in the Alberta Building Code, the registered professional of record in each discipline is:

- Responsible for coordinating the design and field reviews; and
- Responsible for integrity and completeness of the design and field review in their respective discipline.

“Integrity and Completeness” is considered to mean:
- Responsibility is assigned or delegated for all aspects within the discipline;
- The divisions between the respective areas of responsibilities are clearly defined and avoid overlaps;
- The design criteria or assumptions are consistent among the different areas within the discipline;
- Work is delegated to specialty professionals as required; and
- Reviews are made where required to determine if delegation was understood.

The registered professional of record may rely on a specialty professional to be responsible for design and field review of elements in the respective disciplines. Nevertheless, the registered professional of record has the overall responsibility to ensure that all design is undertaken as is necessary to achieve a system that meets acceptable engineering standards. In addition, the registered professional of record must require the other members of the design team to sign and seal the documents for such elements.

A professional engineer, as required under the Code of Ethics, must only undertake work for which he or she is competent or qualified. Therefore, a registered professional of record is entitled to assume that if a professional engineer undertakes an assignment for a portion of the work within the discipline then the specialty professional is assumed to be competent and qualified. However, if evidence arises that suggests the specialty professional is not competent or qualified, then the registered professional of record must undertake such additional work to ascertain whether the person is competent.

3.7.6. Specialty Professionals
3.7.6.1. General
..... The specialty professional's work would be related to that of the coordinating registered professional or one of the registered professionals of record. The specialty professional should establish his or her scope of work, including preparation of contract documents and field review, together with any other professionals whose work has an impact on his or her discipline. The scope of work should be sufficient to meet the requirements of the registered professional of record to which his or her work is related....
Unless otherwise noted, the registered professional of record who is responsible for specifying an element or piece of equipment is responsible for assuring completion of the design and field review of any support, vibration restraint and seismic restraint for that element or piece of equipment. This design and field reviews may be done by the specialty professions retained to design that element of piece of equipment. When a specialty professional is retained to design the support and restraint of an element or piece of equipment, the registered professionals of record who is responsible for specifying that element or piece of equipment shall review, for completeness, the design details prepared by the specialty professional....
Application of NECB to Single Family Home Additions

Question:
Additions of more than 10 m² are required to meet Energy Code Requirements. How are SCO’s enforcing additions for dwelling units (prescriptive/HVAC)?

There is a reference within the 2011 NECB which provides a definition for “addition” within creating the parameters of an addition as meaning a floor surface area of more than 10m². The 2011 NECB excludes an addition of less than 10m² from complying with the energy efficiency requirements of the 2011 NECB.

The 2014 ABC does not include the same reference definition and therefore, additions of any size are required to meet the energy efficiency requirements within Section 9.36.

Within the 2014 ABC, under Sentence 9.36.1.3.(1). a building can conform to the prescriptive or trade-off requirements, the performance requirements, or the requirements within the 2011 NECB. Should an owner decide to meet the 2011 NECB requirements, an addition of less than 10m² would still be required to comply to energy efficiency requirements because the scope of the 2014 ABC is what is being referenced, and not that of the 2011 NECB. The 2011 NECB should be looked at in the same light as that of any referenced standard; as a document supplemental to the ABC, where the ABC provisions govern.

Where a dwelling unit is constructing an addition of any size, energy efficiency requirements should be applied. However, a STANDATA is under development to provide clarification that where an existing appliance is being replaced (i.e. replacing a furnace), these appliances are not required to meet Section 9.36 energy efficiency requirements.

Background Information:
2014 Alberta Building Code
1.1.1.1. Application of this Code
1) This Code applies to any one or more of the following:
   f) an addition to any building,

9.36.1.3. Compliance and Application (See Appendix A.)
1) Except as provided in Sentences (2) to (5), buildings shall comply with
   a) the prescriptive or trade-off requirements in Subsections 9.36.2. to 9.36.4.,
   b) the performance requirements in Subsection 9.36.5., or
   c) the NECB.

1.5.1.2. Conflicting Requirements
1) In case of conflict between the provisions of this Code and those of a referenced document, the provisions of this Code shall govern.

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2011 National Energy Code of Canada for Buildings
1.1.1.1. Application of this Code

1) Except as provided in Sentence (2), this Code applies to the design and construction of all new buildings described in Sentence 1.3.3.2.(1) of Division A of the NBC and to additions.

Addition means any conditioned space that is added to an existing building and that increases the building's floor surface area by more than 10 m².

INTERPRETATION

The intent of Section 9.36., falls in line with the application of the NECB as applying to new buildings and additions. The installation or replacement of one piece of HVAC equipment would not adversely affect the overall energy usage of the building as a whole. In fact, with the current requirements of the federal Energy Efficiency Act such an installation would be more energy efficient than the existing HVAC equipment.

1. The installation of building HVAC equipment with a lower efficiency rating than that required by NECB 2011 or Section 9.36. of the ABC may include, but is not limited to:
   a. replacing existing building HVAC equipment,
   b. HVAC equipment is being installed in an existing building at a later date (eg. A/C unit)
   c. relocation of HVAC equipment within the building
Door Release Hardware

Question:
It has come to our attention that aluminum storefront door deadbolts have a standard double turn on the cylinders to open the door and do not satisfy “readily openable” as they are well past the 90°. We have contacted a number of suppliers which have stated this is the normal lock and there are no options that turn within the 90 degrees. To meet this requirement, they would have to have a more standard non-aluminum type door with a standard deadbolt.

The Intent and functional statements within the Alberta Building Code indicate that the requirements for door release hardware are in place to facilitate timely movement of persons in the event of an emergency. Although Sentence 3.4.6.16(1) requires the doors to be readily openable with not more than one releasing operation, Article 3.4.6.17. provides an exemption for sprinklered buildings of mercantile occupancies.

Where the deadbolt of a storefront door is unlocked and which swings open without the use of release hardware during the hours the space is in use, and where the lock is engaged only during the hours the space is unoccupied, facilitating timely movement of persons to a safe place in an emergency may not be in keeping with the intent of the application.

Background Information:
2014 Alberta Building Code
3.4.6.16. Door Release Hardware
1) Except for devices on doors serving a contained use area or an impeded egress zone designed to be remotely released in conformance with Article 3.3.1.13., and except as permitted by Sentence (4) and Article 3.4.6.17., locking, latching and other fastening devices on a principal entrance door to a building as well as on every exit door shall permit the door to be readily opened from the inside with not more than one releasing operation and without requiring keys, special devices or specialized knowledge of the door opening mechanism. (See Appendix A.)

A-3.4.6.16.(1) Fastening Device. Turn pieces of a type which must be rotated through an angle of more than 90° before releasing a locking bolt are not considered to be readily openable. The release of a locking bolt should allow the door to open without having to operate other devices on the door.

Intent and Functional Statements
3.4.6.16. Door Release Hardware
(1) [F10-OS3.7]
F10 To facilitate the timely movement of persons to a safe place in an emergency.
OS3 Safety in Use
OS3.7 – persons being delayed in or impeded from moving to a safe place during an emergency (see Appendix A)

Intent 1:
To limit the probability of delays in opening principal entrance doors and exit doors in an emergency situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

Intent 2:
To expand the application of Sentences 3.3.1.13.(6) to (8).

3.4.6.17. Security for Banks and Mercantile Floor Areas
1) If a building is sprinklered throughout, the requirements of Sentence 3.4.6.16.(1) are permitted to be waived for exit and egress doors complying with Sentences (2) to (9) that serve a floor area or part of a floor area used exclusively for
   a) a bank, or
   b) the sale of retail merchandise. (See Appendix A.)

A-3.4.6.17.(1) Special Security for Doors. The need for security in banks and in mercantile occupancies requires the ability to use positive locking devices on doors that may not readily be opened from inside the building. In a fully sprinklered building, the risk to persons inside the building is substantially reduced. The provisions of Sentences 3.4.6.17.(2) to (9) assume that the area is illuminated and that a means of communication is available to any occupant during times that the doors are locked.

3.4.6.17. Security for Banks and Mercantile Floor Areas
2) Exit and egress doors referred to in Sentence (1) shall be designed to prevent locking at any time that the part of the floor area that they serve is open to the public.

3) A sign with the words “This door shall not be locked at any time that the public is present” in letters not less than 50 mm high shall be permanently affixed to both sides of doors referred to in Sentence (1).

4) Exit and egress facilities complying with Sentences (5) to (9) shall be incorporated for egress by persons other than the public from a floor area or a part of a floor area referred to in Sentence (1) during times when the public is neither present nor being admitted to the area that they serve.

5) In exit and egress facilities referred to in Sentence (4), at least one door at each exit and egress location shall
   a) be operable in conformance with Sentence 3.4.6.16.(1), or
   b) be equipped with locks conforming to Sentence 3.4.6.16.(4) that release immediately
      i) if an alert signal or alarm signal is initiated in the fire alarm system, or
      ii) the sprinkler system is actuated.

6) A door referred to in Sentence (5) shall be permanently and distinctly marked to indicate that it is an emergency exit.

7) Exit and egress facilities required for evacuation of persons other than the public from a floor area or a part of a floor area referred to in Sentence (1) shall have an aggregate width based on
the maximum number of persons other than the public and determined in accordance with Articles 3.4.3.1. to 3.4.3.3.

8) Travel distance to an *exit* referred to in Sentence (7) shall not exceed the travel distance determined in accordance with Subsection 3.4.2.

9) *Exit* and egress doors serving a *floor area* or part of a *floor area* referred to in Sentence (1) are permitted to be equipped with locks that require keys, special devices or specialized knowledge of the door opening mechanism provided
a) the doors do not lead into *exit* stairs,
b) the doors do not lead from *exit* stairs to the exterior of the *building*,
c) the doors do not serve any other *occupancy*,
d) the area served contains at least one telephone
   i) that is accessible and in operation at all times,
   ii) that is not coin or card operated, and
   iii) marked to indicate that it is for emergency use,
e) the area served is illuminated by normal power or by emergency power when the doors are locked,
f) there are provisions that enable an announcement to be made throughout the area served before the locks are fastened, and
g) the locks are designed for use during times that the *building* is not occupied.
Cancellation of New Home Buyer Protection After the Fact

Question:
The New Home Buyer Protection (NHBP) Department notifies us if coverage has been cancelled. If this happens after issuance of a permit, what should the building inspector do?

When warranty insurance coverage has been cancelled, either by the builder or the insurance provider, a New Home Buyer Protection Officer will contact the local AHJ to advise them, so that no further inspections or work is done.

Under the Permit Regulation, a permit can be suspended or cancelled if a permit has been issued, where incorrect of insufficient information is provided under section 11. Additionally, a permit can also be cancelled or suspended where the undertaking contravenes the Act or another enactment, or where there is a contravention of a condition under which the permit was issued.

When coverage has been cancelled, the permit application requirements have no longer been met, and the permit can be suspended or cancelled until appropriate corrections have been made.

In situations where the house has previously been finaled, but NHBP has now been cancelled. A copy of the final inspection report should be provided to the NHBP Department, so they can contact the warranty provider.

Background Information:

SCA - Permit Regulation

Refusal to issue, suspension or cancellation

26 Without restricting the generality of section 46 of the Act, a permit issuer may refuse to issue a permit and, without restricting the generality of section 44 of the Act, a safety codes officer may suspend or cancel a permit that has been issued if

(b.1) incorrect or insufficient information is provided under section 11 of the New Home Buyer Protection (General) Regulation or section 2 of the New Home Buyer Protection (Regional Municipality of Wood Buffalo) Regulation,
(b.2) evidence provided under section 6.1(2) was incorrect or is no longer correct,
(c) in the opinion of the permit issuer, the undertaking for which the permit would be or has been issued would or does contravene the Act or another enactment,
(d) the permit fee has not been paid,
(e) there is a contravention of any condition under which the permit was issued, or
Application of 9.36 to RTM’s

Question?
Is Section 9.36 applicable to RTM’s, RTM’s placed on a basement, or to an older home on a basement?
Where a building permit was issued for an RTM prior to November 1, 2016, the building would not be required to meet energy efficiency requirements. However, where a building permit was issued from that date forward, energy efficiency requirements should be applicable and Section 9.36 of the ABC or the 2011 NECB should be followed. (See information provided in STANDATA 14-BCI-001 Application of Energy Efficiency Requirements and Enforcement Dates).

Where an RTM (new or existing) or an older home is placed on a new basement, the basement construction should be required to meet the current 2014 ABC requirements and should be constructed to meet the energy efficiency requirements within Section 9.36 or the 2011 NECB. The above grade unit construction should fall under the exemptions within the ABC for existing construction, and should not be required to meet current requirements unless applicable under Division A Article 1.1.1.2.

Background Information:
2014 Alberta Fire Code
9.36.1.3. Compliance and Application (See Appendix A.)
2) Subsections 9.36.2. to 9.36.4. apply to
a) buildings of residential occupancy to which Part 9 applies,
b) buildings containing business and personal services, mercantile or low-hazard industrial occupancies to which Part 9 applies whose combined total floor area does not exceed 300 m2, excluding parking garages that serve residential occupancies, and
c) buildings containing a mix of the residential and non-residential occupancies described in Clauses (a) and (b).

3) Subsection 9.36.5. applies only to
a) houses with or without a secondary suite, and
b) buildings containing only dwelling units and common spaces whose total floor area does not exceed 20% of the total floor area of the building. (See Appendix A.)

A-9.36.1.3.(3) Houses and Common Spaces.
Houses
For the purpose of Sentence 9.36.1.3.(3), the term "houses" includes detached houses, semi-detached houses, duplexes, triplexes, townhouses, row houses and boarding houses.
1.1.1.2. Application to Existing Buildings (See Appendix A.)

1) This Article applies to a building that has been legally built, occupied and used before 01 May 2015.

2) If a building is altered, rehabilitated, refurbished, renovated or repaired, the level of life safety and building performance shall not be decreased.

3) Except as specified in Part 10 of Division B, the authority having jurisdiction shall accept any construction or condition that lawfully existed in Alberta before 01 May 2015 if the construction or condition does not constitute an unsafe condition.

4) A change in occupancy or alteration of any building constructed before 01 May 2015 shall be permitted if the level of safety and building performance proposed are acceptable to the authority having jurisdiction.

5) For a building constructed before 01 May 2015, the authority having jurisdiction may accept an alternative or a proposal that achieves the appropriate level of safety for the specific activity for which the building is to be used.

6) The authority having jurisdiction may accept existing construction not in complete compliance with this Code, in which case it may be accepted, subject to conditions.

STANDATA 14-BCI-001 Application of Energy Efficiency Requirements and Enforcement Dates

ISSUE #2

Manufactured homes and energy efficiency

Manufactured homes and other factory-built structures, unlike site-constructed buildings, are typically not constructed using a building permit process. Factory-constructed buildings may be constructed long before the buildings are placed on site. Consequently, the information or evidence to demonstrate compliance with respect to enforcement dates for factory-constructed buildings and site-constructed buildings are not the same.

Interpretation

Site- Constructed Buildings

Where an application for a building permit for a site-constructed building is received by the authority having jurisdiction before November 1, 2016, the design of the building is not required to comply with the requirements of Section 9.36. ABC 2014 or the NECB 2011 as appropriate.

Where an application for a building permit for a site-constructed building is received on or after November 1, 2016, the building design must comply with the requirements under Section 9.36. ABC 2014 or the NECB 2011 as appropriate.

Manufactured Homes and Other Factory- Constructed Buildings

Where a manufactured home is constructed prior to November 1, 2016, the building design is not required to meet the requirements of Section 9.36. ABC 2014. The builder will be required to provide the homeowner and permit issuer with appropriate documentation that proves that the construction completion date occurred prior to
November 1, 2016. In cases where the home is not substantially completed in the manufacturer’s facility, the manufacturer’s record of completion date will be used. A manufactured home that has had its factory-related construction completed on or after November 1, 2016, will be required to meet the requirements of Section 9.36. ABC 2014.

Factory-constructed buildings other than manufactured homes will not be required to meet the energy efficiency requirements (Section 9.36. ABC 2014 or NECB 2011 as appropriate) provided the factory-related construction is completed before November 1, 2016. Similar to manufactured homes, appropriate documentation demonstrating date of completion must be provided to the owner and permit issuer. A factory-constructed building that has had its factory-related construction completed on or after November 1, 2016, will be required to meet the requirements of Section 9.36. ABC 2014 or NECB 2011 as appropriate.
APPLICATION OF ENERGY EFFICIENCY REQUIREMENTS AND ENFORCEMENT DATES

INTRODUCTION

This STANDATA has been developed to provide interpretations respecting the application of energy efficiency requirements under Section 9.36. Alberta Building Code 2014 (ABC 2014) and the National Energy Code of Canada for Buildings 2011 (NECB 2011).

A key update is the clarified enforcement date of November 1, 2016 for energy efficiency requirements.

ISSUE #1

Extension of Transition Period

Input from municipalities, construction industry, professionals, safety codes officers and the Building Sub-Council of the Safety Codes Council has indicated that the May 1, 2016 mandatory application of the NECB 2011 will not be practical or feasible. The substantive changes required to accommodate energy efficiency with respect to design, training and verification necessitates a relatively short extension. There has also been considerable confusion respecting the transition period for energy efficiency between voluntary usage and mandatory application of the energy codes.

Interpretation

The May 1, 2016 transition period for voluntary application of the NECB 2011 is extended to November 1, 2016. This extension provides consistency with the mandatory application date for Section 9.36. ABC 2014, which is also November 1, 2016.

A clarified condition for demonstrating compliance as of November 1, 2016 is also required for both NECB 2011 and Section 9.36. ABC 2014. Where an application for a building permit for a site-constructed building is received by the authority having jurisdiction before November 1, 2016, the design of the building is not required to comply with the requirements of Section 9.36. ABC 2014 or the NECB 2011 as appropriate.

Energy codes are an important component of climate change strategies in Alberta, Canada and globally. For this reason, owners and designers are encouraged to voluntarily apply energy efficiency requirements during this extended transition period. Alberta and other provinces and territories are committed to the expeditious adoption of future editions of the national energy codes and the corresponding improved energy efficiency standards.
ISSUE #2

Manufactured homes and energy efficiency
Manufactured homes and other factory-built structures, unlike site-constructed buildings, are typically not constructed using a building permit process. Factory-constructed buildings may be constructed long before the buildings are placed on site. Consequently, the information or evidence to demonstrate compliance with respect to enforcement dates for factory-constructed buildings and site-constructed buildings are not the same.

Interpretation

Site-Constructed Buildings
Where an application for a building permit for a site-constructed building is received by the authority having jurisdiction before November 1, 2016, the design of the building is not required to comply with the requirements of Section 9.36. ABC 2014 or the NECB 2011 as appropriate.

Where an application for a building permit for a site-constructed building is received on or after November 1, 2016, the building design must comply with the requirements under Section 9.36. ABC 2014 or the NECB 2011 as appropriate.

Manufactured Homes and Other Factory- Constructed Buildings
Where a manufactured home is constructed prior to November 1, 2016, the building design is not required to meet the requirements of Section 9.36. ABC 2014. The builder will be required to provide the homeowner and permit issuer with appropriate documentation that proves that the construction completion date occurred prior to November 1, 2016. In cases where the home is not substantially completed in the manufacturer's facility, the manufacturer's record of completion date will be used.

A manufactured home that has had its factory-related construction completed on or after November 1, 2016, will be required to meet the requirements of Section 9.36. ABC 2014.

Factory-constructed buildings other than manufactured homes will not be required to meet the energy efficiency requirements (Section 9.36. ABC 2014 or NECB 2011 as appropriate) provided the factory-related construction is completed before November 1, 2016. Similar to manufactured homes, appropriate documentation demonstrating date of completion must be provided to the owner and permit issuer.

A factory-constructed building that has had its factory-related construction completed on or after November 1, 2016, will be required to meet the requirements of Section 9.36. ABC 2014 or NECB 2011 as appropriate.

ISSUE #3

Safety Codes Officer Authority to Inspect and Enforce Energy Efficiency Requirements
Safety codes officers designated in the building discipline have raised questions with Municipal Affairs respecting their authority to inspect and enforce energy efficiency requirements under the NECB 2011 and to a lesser extent Section 9.36. ABC 2014.

The specific reference to the Alberta Building Code, specific editions of the Alberta Building Code or omission to reference the NECB 2011 in an accredited authority Quality Management Plan (QMP) or the safety codes officer designation of powers is creating confusion respecting the valid authority of a building safety codes officer to inspect and enforce energy efficiency requirements.
Interpretation

A safety codes officer may only exercise their powers and perform their duties in accordance with their designation of powers and their terms of employment. The designation of powers certificate for a building safety codes officer references the term “Building” and lists the powers under the Safety Codes Act (Act) that the safety codes officer is authorized to exercise. The Act provides authority to make regulations respecting “buildings” and the Building Code Regulation (31/2015) references both Section 9.36. ABC 2014 and the NECB 2011. This means that a building safety codes officer has authority to inspect and enforce Section 9.36. ABC 2014 and NECB 2011 subject to the certification of competency (group and levels) that the safety codes officer has attained and the actual implementation period for energy efficiency requirements. As a building safety codes officer is designated in the “Building” safety system, a building safety codes officer retains the authority to inspect and enforce energy efficiency. As training is made available in May 2016, safety codes officers will be required to take that training in order to retain their certification.

Terms used within the QMP are not relevant to the authority of the safety codes officer to exercise powers and perform duties with respect to energy efficiency requirements. A review of the QMP wording will be jointly undertaken by the Safety Codes Council and Municipal Affairs to identify and adjust terms that may cause confusion for accredited authorities and safety codes officers.

ISSUE #4

Documentation of Design Compliance for Energy Efficiency and NECB 2011

Industry stakeholders and accredited authorities have raised questions respecting the acceptable means for demonstrating design compliance with the NECB 2011. There is a belief circulating that because the professional schedules do not specifically reference energy efficiency or the NECB 2011, the professional schedules cannot be used for documenting design compliance to the NECB 2011.

The ABC 2014 references the requirement for professional schedules, but the actual professional schedule forms are not part of the mandatory sections of the ABC 2014 or any previous building code edition. This means professional schedule forms may be changed at any time without amending the ABC 2014 or Building Regulation. Currently, the Building Sub-Council of the Safety Codes Council is working with stakeholders and Municipal Affairs to revise and modernize the professional schedules. This is why the terms related to energy efficiency were not identified on the professional schedules when energy efficiency code requirements were adopted.

Interpretation

The professional schedules are acceptable as documentation of professional involvement related to NECB 2011 and energy efficiency regulated under the Building Code Regulation. While there is no requirement to specifically reference energy efficiency in the professional schedules, the identification of energy efficiency provides certainty and confidence for both the authority having jurisdiction, designers, owners and other persons and organizations in the safety system.

The absence of a reference to energy efficiency on the professional schedule forms is not relevant to the validity of the professional schedules for the NECB 2011 or any other code. Under Article 2.4.3.1., Division C ABC 2014, the design of a project shall comply with the ABC 2014 and “other regulations made pursuant to the Safety Codes Act”; and, “the construction of the project will substantially comply with this Code and other regulations made pursuant to the
Safety Codes Act." This means that the professional schedules are subject to the Safety Codes Act and any applicable regulations and codes under the Act including the NECB 2011 and energy efficiency under the Building Code Regulation.

Buildings constructed to the NECB 2011 or buildings assessed by a safety codes officer to require professional involvement (i.e. because of complexity or risk) require evidence of professional involvement under the A, B and C schedules as referenced in the ABC 2014. The owner and professional have an obligation to satisfy the authority having jurisdiction that energy efficiency requirements have been considered and confirmed.

This INTERPRETATION is applicable throughout the province of Alberta.
Enforcement of Fire Safety Plans

Question?
Are Building SCO's required to confirm fire safety plans when the requirements is not noted within the Alberta Building Code?

Building Code Variance STANDATA 14-BCV-001 and Fire STANDATA AFC 5.6.1.3.

Construction Site Fire Safety Plans provides a variance clarifying a Building SCO's authority to accept a fire safety plan for construction or demolition sites. This authority should be utilized in areas where a fire safety codes officer and fire department staff are not readily available, accessible or not prepared for the undertaking.

STANDATA 14-BCV-001

Variance
A building safety codes officer exercising powers pursuant to their designation of powers and terms of employment in accordance with the Safety Codes Act, may accept fire safety plans as authorized under Article 8.1.1.1. of the ABC and in accordance with the terms and conditions of Section 5.6 of Division B of the AFC throughout the Province of Alberta. This variance applies to building safety codes officers employed by an accredited municipality, accredited regional services commission, accredited agency, accredited corporation, the Alberta Safety Codes Authority and section 33(1) safety codes officers appointed by the Minister for the administration of the Safety Codes Act anywhere in Alberta.

Background Information:
2014 Alberta Fire Code
Section 5.6. Construction and Demolition Sites
5.6.1.3. Fire Safety Plan

1) Except as required in Sentence (2), prior to the commencement of construction, alteration or demolition operations, a fire safety plan, accepted in writing by the fire department and the authority having jurisdiction, shall be prepared for the site and shall include
a) the designation and organization of site personnel to carry out fire safety duties, including a fire watch service if applicable,
b) the emergency procedures to be followed in the event of a fire, including
   i) initiating a fire warning,
   ii) notifying the fire department,
   iii) instructing site personnel on the procedures to be followed once the warning has been initiated, and
   iv) confining, controlling and extinguishing the fire,
c) measures for controlling fire hazards in and around the building (see Appendix A), and
d) a maintenance procedure for firefighting measures required in Section 5.6.
2) Prior to the commencement of construction, alteration or demolition operations that occur in an existing building required to have a fire safety plan conforming to Section 2.8., the revised fire safety plan shall take into account the changes occurring to the building and shall be accepted in writing by the fire department and the authority having jurisdiction.

A-5.6.1.1. The degree of application should be determined in advance in conjunction with the authority having jurisdiction. In construction, alteration or demolition operations that do not pose an exposure hazard to other buildings or to occupants, the degree of application of Section 5.6. may be minimal.

The degree of application of Section 5.6. to each operation should be determined in advance, as part of the fire safety plan for the operation, taking into consideration such issues as the size of the operation, exposure of adjacent buildings or facilities to hazards, and the site conditions. Operations can range from large multi-storey buildings to small single-storey residences and may include additions or alterations to existing buildings.

In order to satisfy Sentence 8.1.1.1.(3) of Division B of the ABC, all of the relevant requirements of this Section must be complied with; in particular, the requirement for a fire safety plan in Article 5.6.1.3. must be addressed prior to the commencement of work.
CONSTRUCTION SITE FIRE SAFETY PLANS

INTRODUCTION

This STANDATA has been developed to allow building safety codes officers to accept fire safety plans for construction and demolition sites as required under Section 5.6. of the Alberta Fire Code 2014 where fire safety codes officers are not readily available.

DISCUSSION

Requirements for fire safety plans at construction and demolition sites are regulated under the Alberta Building Code 2014 (ABC) and the Alberta Fire Code 2014 (AFC). Under ABC 8.1.1.1., which applies to all buildings regulated by the ABC, fire safety at construction and demolition sites shall conform to Section 5.6. of Division B of the AFC. Article 5.6.1.3. of the AFC, which sets out criteria for fire safety plans, requires that a fire safety plan shall be prepared for the site and accepted in writing by the fire department and the authority having jurisdiction prior to commencement of construction and demolition. The AFC defines the authority having jurisdiction as a fire safety codes officer.

ISSUE

Article 5.6.1.3. is an Alberta specific code requirement and creates an unintended restriction for the acceptance of fire safety plans. The wording of 5.6.1.3. does not specifically provide for the option of a building safety codes officer accepting fire safety plans. In some areas of the province, a fire safety codes officer and fire department staff are not readily available or accessible or may not be prepared for this undertaking. Both the Chief Building Administrator and the Chief Fire Administrator support and encourage the practice for building and fire safety codes officers and the fire department to accept construction site fire safety plans as part of a joint risk management process.

While the intent of the 2014 changes to Article 5.6.1.3. was to provide a clear method for information dissemination and enforcement, this code requirement will be reassessed as part of Alberta's national/provincial code harmonization project for the next Alberta building and fire code editions. In the duration, a variance is necessary to provide authority for building safety codes officers to accept fire safety plans, where fire safety codes officers and fire departments are not readily available, as a matter of public safety.
5.6.1.3. Fire Safety Plan

1) Except as required in Sentence (2), prior to the commencement of construction, alteration or demolition operations, a fire safety plan, accepted in writing by the fire department and the authority having jurisdiction, shall be prepared for the site and shall include
   a) the designation and organization of site personnel to carry out fire safety duties, including a fire watch service if applicable,
   b) the emergency procedures to be followed in the event of a fire, including
      i) initiating a fire warning,
      ii) notifying the fire department,
      iii) instructing site personnel on the procedures to be followed once the warning has been initiated, and
      iv) confining, controlling and extinguishing the fire,
   c) measures for controlling fire hazards in and around the building (see Appendix A), and
   d) a maintenance procedure for firefighting measures required in Section 5.6.

2) Prior to the commencement of construction, alteration or demolition operations that occur in an existing building required to have a fire safety plan conforming to Section 2.6., the revised fire safety plan shall take into account the changes occurring to the building and shall be accepted in writing by the fire department and the authority having jurisdiction.

3) Where construction, alteration or demolition involves hot work, a fire safety plan, accepted in writing by the fire department and the authority having jurisdiction, shall be prepared for the site.

Alberta Building Code 2014

8.1.1.1. Scope

1) The scope of this Part shall be as described in Subsection 1.3.3. of Division A.

2) This Part applies to fire safety and the protection of the public during the construction, alteration or demolition of every building, including any incompleted or abandoned building.

3) Fire safety at construction and demolition sites shall conform to Section 5.6. of Division B of the Alberta Fire Code 2014.

VARIANCE

A building safety codes officer exercising powers pursuant to their designation of powers and terms of employment in accordance with the Safety Codes Act, may accept fire safety plans as authorized under Article 8.1.1.1. of the ABC and in accordance with the terms and conditions of Section 5.6 of Division B of the AFC throughout the Province of Alberta. This variance applies to building safety codes officers employed by an accredited municipality, accredited regional services commission, accredited agency, accredited corporation, the Alberta Safety Codes Authority and section 33(1) safety codes officers appointed by the Minister for the administration of the Safety Codes Act anywhere in Alberta.

This variance also recognizes the existing authority for building and fire safety codes officers to inspect requirements common to both the ABC and AFC including construction site fire safety plan compliance throughout the construction process.
Spray Foam over Ductwork

Question?
The ABC says you can’t spray foam around supply ducts, yet it seems to be common practice with the condition that joints are sealed? How is everyone accepting this?
There are some jurisdictions who have been accepting foam plastic insulation in contact with heating ductwork where the manufacturer has had testing completed confirming compliance to the CAN/ULC-S705.1 or the CAN/ULC-S102, as well as testing of the products flame-spread rating and smoke development classification.

In these situations, the AHJ has accepted a city wide variance for the manufacturer’s product as long as it is installed as per their proposal.

The 2015 National Building Code has implemented a change within the document, which permits this installation where certain conditions have been met. See references below for conditions.

Background Information:
2014 Alberta Building Code Requirements
9.32.3.11. Ducts
8) Joints in all ventilation system ducting shall be sealed with mastic, metal fci/ duct tape or the manufacturers’ specified sealants.

Coverings, Linings, Adhesives and Insulation (3.6.5.4. and 9.33.6.4.)
3.6.5.4. & 9.33.6.4. Coverings, Linings, Adhesives and Insulation
5) Except as permitted by Sentence (6), foamed plastic insulation shall not be used as part of an air duct system or for insulating an air duct.

9.33.6.4.(5)
OS1 Fire Safety
Intent
Intent 1:
To limit the probability that foamed plastic, once ignited, will contribute to the rapid spread of fire and smoke throughout the building, which could lead to harm to persons.

3.6.5.4.(5)
OS1 Fire Safety
Intent
Intent 1:
To limit the probability that foamed plastic insulation will be used in air duct systems or for insulating air ducts, which could lead to the insulation contributing to the growth or spread of fire, which could lead to the spread of fire to other parts of the building by means of the air duct systems, which could lead to harm to persons.
2015 National Building Code

9.33.6.4.

5) Except as provided by Sentence (6) & (7), foamed plastic insulation shall not be used as part of an air duct or for insulating an air duct.

6) Foamed plastic insulation confirming to Article 9.25.2.2. is permitted to be used to insulate a galvanized steel, stainless steel or aluminum air duct, provided
   a) the foamed plastic insulation applied to supply ductwork is not less than 3m from the furnace bonnet,
   b) the temperature within the ductwork where the insulation is installed is not greater than 50 degrees C,
   c) duct joints are taped with a product conforming to Sentence 9.33.6.3.(1),
   d) return air plenums are separated from the foamed plastic insulation, and
   e) the foamed plastic insulation is protected
      i) by one of the interior finishes described in Subsection 9.29.4. to 9.29.9.,
      ii) provided the building does not contain a Group C major occupancy, by sheet metal that is mechanically fastened to the supporting assembly independent of the insulation, is not less than 0.38mm thick and has a melting point of 650 degrees C, or
      iii) by any thermal barrier that meets the requirements of Clause 3.1.5.15.(2)(e).

Excerpt from 2014 NBC Illustrated User's Guide:

9.33.6.3. Tape

This Article requires, through reference to a standard, acceptable tape for sealing duct joints that will not create a fire hazard by facilitating the spread of fire along its surface.

9.33.6.4. Coverings, Linings, Adhesives and Insulation

This Article requires that air ducts (including plenums) and their components, such as coverings, linings, insulation and adhesives, not facilitate the spread of fire along the ducts, and not generate excessive amounts of smoke in the event of a fire. It requires that these materials not ignite when they are near sources of high temperatures, and that they be able to preserve the integrity of any fire separation through which the ducts pass. Lining materials can interfere with the operation of dampers or fire block flaps. This has to be prevented.

Example of an Alternative Solution Approval

The information evaluated in relation to this Sentence follows:

- Testing of the Spray Foam to ASTM C411, Test Method for Hot-Surface Performance of High Temperature Thermal Insulation. The test results show that the Spray Foam, in contact with a hot surface maintained at \(121\pm14\)°C for 96 hours did not flame, glow, smoulder or smoke, nor was there any evidence of melting, dripping, cracking, delaminating or warping. This constitutes a pass for this test.
- The CCMC evaluation report allows product 1 to be used at maximum in-service temperatures not exceeding 70°C, and CAN/ULC-S705.2 allows product 2 to be used at maximum in-service temperatures not exceeding 80°C.
- Your office provided information that the maximum exterior surface temperature of a residential duct would be in the range of 60°C at a distance of at least 3 m from the furnace.

Based on your office’s submission and our subsequent review and interpretation of the articles involved, we agree that the Spray Foam may be installed in direct contact with forced air heating ductwork and return air ductwork in residential construction limited to single family homes, semi-detached houses, duplexes and row houses that are not stacked. This is subject to the following limitations.

1. The Spray Foam may be applied to supply ductwork at a distance of 3 m or greater from the furnace bonnet and there must be a temperature of 50°C or less within the ductwork at the point where the
Spray Foam is being applied.

2. Ductwork section joints are to be taped with a product complying to the ABC – Article 9.33.6.3. prior to installing the Spray Foam.

3. Return air plenums are to be isolated from the Spray Foam by sheet metal.

4. All void spaces around ducts are to be filled with the Spray Foam up to the thermal barrier.

5. A thermal barrier is to cover the Spray Foam in order to isolate it from adjacent space other than adjacent concealed spaces, as required by the CCMC evaluation report for the product, and the ABC – Article 9.10.17.10.

6. The Spray Foam insulation is to be kept away from heat emitting devices such as chimneys, recessed lights etc., as outlined in CAN/ULC-S705.2 and the CCMC evaluation report.

7. The Spray Foam shall not isolate any plumbing pipes so that pipes may be exposed to unheated areas.

We also note that the installer intends to supply an identification certificate on-site to identify the type of foam used, builder, and/or certified contractor doing the installation. We suggest that this information be supplied to the home builder at the start of the job and be available for our Safety Codes Officers in the on-site job pouch. In this way our inspection staff will be aware of the type of insulation and will look for the appropriate installation of heating and plumbing pipes in relation to the installation.
9.36. and Attached Garages

Question 1:
What does Section 9.36. require for Code compliance relating to attached garages?
There is a Draft Standard in the process of addressing insulation requirements within an attached garage (heated or unheated). The proposed interpretation applies to the framed walls and ceiling of an attached garage adjacent to unconditioned space or the exterior and serving not more than one dwelling unit or a house with a secondary suite.

This interpretation is expected to contain the following information (in part):
1. The exterior framed walls shall be thermally insulated to a minimum nominal insulation value of RSI-2.11 (R12).
2. Where battloose fill insulation is used, provide no less than full cavity insulation. i.e. 2 x 6 wall RSI-3.52 (R-20) nominal or 2 x 4 wall RSI-2.11 (R12) nominal.
3. Exterior above grade concrete garage foundation walls do not require thermal insulation for unconditioned garages.
4. The ceiling below attic spaces shall be thermally insulated to a minimum nominal insulation value of RSI-6.0 (R-34).
5. Installation of insulation shall conform to Section 9.25.
6. Installation of vapour barrier shall conform to Section 9.25.

Question 2:
What does Section 9.36. & Sections 9.33. & 9.25 require for Code compliance relating to detached residential buildings?
This question is currently being reviewed, and discussed within AMA, especially when considering heated buildings. Although Section 9.36 is clear that energy efficiency requirements are not applicable to parking garages serving residential occupancies, concerns for moisture control in these buildings once heated, and the requirements within Section 9.33 and 9.25 are also being looked at.

AMA is currently conferring with the NRC, and reviewing the direction taken by other provinces to determine the intent of the requirements. AMA anticipates that we will have to develop a new STANDARD to address this topic.

Background Information:
2014 Alberta Building Code
9.36.2.1. Scope and Application
8) The requirements of this Subsection also apply to components of a building envelope assembly that separate a heated or unheated attached garage from unconditioned space or the exterior air, where the attached garage serves
a) not more than one dwelling unit, or
b) a house with a secondary suite.
9.36.1.3. Compliance and Application

2) Subsections 9.36.2. to 9.36.4. apply to
   a) buildings of residential occupancy to which Part 9 applies,
   b) buildings containing business and personal services, mercantile or low-hazard industrial occupancies to which Part 9 applies whose combined total floor area does not exceed 300 m2, excluding parking garages that serve residential occupancies.

5) Except as required by Sentence 9.36.2.1.(8), buildings or portions of buildings that are not required to be conditioned spaces are exempted from the requirements of this Section. (See Appendix A.)

A-9.36.1.3.(5) Exemptions. Examples of buildings and spaces that are exempted from the requirements of Section 9.36. include seasonally heated buildings, storage and parking garages, small service buildings or service rooms and unconditioned spaces in buildings. However, note that, where a building envelope assembly of an exempted building is adjacent to a conditioned space, this assembly must meet the requirements of Section 9.36.

9.33.2.1. Required Heating Systems

1) Residential buildings intended for use in the winter months on a continuing basis shall be equipped with heating facilities conforming to this Section.

9.33.3.1. Indoor Design Temperatures

1) At the outside winter design temperature, required heating facilities shall be capable of maintaining an indoor air temperature of not less than
   a) 22°C in all living spaces,
   b) 18°C in unfinished basements,
   c) 18°C in common service rooms, ancillary spaces and exits in houses with a secondary suite, and
   d) 15°C in heated crawl spaces.

9.25.1.1. Scope and Application

2) All walls, ceilings and floors separating conditioned space from unconditioned space, the exterior air or the ground shall be
   a) provided with
      i) thermal insulation conforming to Subsection 9.25.2. and Section 9.36.,
      ii) an air barrier conforming to Subsection 9.25.3. and Section 9.36., and
      iii) a vapour barrier conforming to Subsection 9.25.4., and
   b) constructed in such a way that the properties and relative position of all materials conform to Subsection 9.25.5.
Buildings Used for Growing, Processing, or Handling of Marijuana (Greenhouses)

Question:
What are the requirements surrounding medical marijuana greenhouse construction?

Buildings used for the growing, processing or handling of marijuana should be categorized as an Industrial occupancy (F1, F2, or F3) depending on the type of operations being carried out within the building or portion of the building. The Alberta Building Code is applicable to these buildings and these buildings should not be deemed as “agricultural”.

Growing marijuana inside a building can present hazards to building occupants. Growing operations can have higher humidity levels which can cause damage to building materials and result in excessive mould growth.

Other considerations which should also be reviewed are the ventilation systems, which should be in conformance with Part 6, and any other compliance related regulations including those identified within Part 3 and Part 5 of the ABC.

In addition to the building requirements stated by the Alberta building Code (ABC) a licenced medical marijuana growing operation is required to meet the current legislation in force by the Government of Canada, which states the requirements for obtaining a license to legally grow, process, store, import, export, distribute and facility security requirements.

Background Information:
To date, here are some concerns that are being considered, and should be addressed by the local AHJ:

1. Buildings (includes greenhouses) where only growing operations take place and are typically of low-human occupancy may be identified as a Low-hazard industrial occupancy (Group F, Division 3), in which the combustible content is not more than 50 kg/m² or 1 200 MJ/m² of floor area.

2. Buildings where processing and handling operations take place would be identified as Medium-hazard industrial occupancy (Group F, Division 2), in which the combustible content is more than 50 kg/m² or 1 200 MJ/m² of floor area and not classified as a high-hazard industrial occupancy.
3. Buildings where processing may include flammable liquids or gases would move the classification into High-hazard industrial occupancy (Group F, Division 1) where sufficient quantities of highly combustible and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard.


5. Compliance with other related regulations or regulatory authority.

Cannabis for Medical Purposes Regulations
Link to website
Multiple Tenant Self-Storage Warehouse

Question:
Will the requirements for mini storage buildings be changed to coincide with the 2015 NBC requirements?

A previous 1997 STANDATA which previously permitted some exceptions for construction requirements for multi-tenant storage buildings was withdrawn and the requirements for fire separations can be found within 3.3.5.9.

Currently AMA is reviewing the changes within the 2015 NBC, to determine if a new STANDATA should be developed which will address various options. This review will also take place as part of the discussions towards addressing any Code changes which should be established should Alberta decide to skip a code cycle, which is also still under review.

If a permit application for a multiple tenant self-storage warehouse were proposed prior to the issuance of a STANDATA. The local SCO would have to ability to review an Alternative Solution proposal which identified the 2015 NBC requirements as rationale for meeting the intent of the ABC.

Background Information:
2014 Alberta Building Code
3.3.5.9. Multiple-Tenant Self-Storage Warehouses
1) Unless the building is sprinklered throughout, each individual tenancy in a multiple-tenant self-storage warehouse classified as an industrial occupancy shall be separated from the remainder of the building by a fire separation having a fire-resistance rating not less than 45 min.

9.9.6.4.(5) Exit doors need not conform to Sentences (1) or (2), where
a) the doors serve accessory buildings where life safety is not adversely affected,
b) the doors serve storage garages or other accessory buildings serving not more than one dwelling unit, or
  c) the doors
     i) serve storage suites of not more than 20 m² in gross area that are in warehousing buildings of not more than one storey, and
     ii) open directly to the exterior at ground level.

Ontario Building Code
3.10.2.5. Exit Requirements
(1) Except as provided in Sentences (2) and (3), the requirements in Section 3.4. shall apply.
(2) The clear width of an exit stair shall be not less than 1 100 mm.
(3) Exit doors from rental spaces are not required to swing on a vertical axis provided,
  (a) the area of the rental space is not more than 50 m², and
  (b) the travel distance within the rental space is not more than 10 m.
Section 3.9. Self-service Storage Buildings

3.9.1. General

3.9.1.1. Definition

1) For the purpose of this Section, the term "self-service storage building" shall mean a building that is open to the public for the sole purpose of providing individual self-service storage units.

3.9.1.2. Application

1) This Section applies to self-service storage buildings that
   a) are not more than one storey in building height,
   b) do not contain a basement or mezzanine,
   c) consist of individual self-service storage units with external access only,
   d) are used for no purpose other than storage, and
   e) except as provided in Sentences 3.9.3.1(2) and (4), contain no other major occupancy.

2) Where there is a conflict between the requirements of this Section and other requirements in Part 3, this Section shall govern.

3) The requirements in Part 3 regarding occupant load shall not apply to self-service storage buildings.

3.9.1.3. Occupancy Classification

1) Self-service storage buildings shall be classified as Group F, Division 2 major occupancies.

3.9.2. Building Fire Safety

3.9.2.1. Building Area

1) For the purpose of applying the requirements of Subsections 3.2.1. and 3.2.2. to self-service storage buildings, building area shall mean
   a) the building area of each building, or
   b) the total of the building areas of all buildings as a group.
   (See Note A-3.9.2.1.(1).)

3.9.2.2. Spatial Separation

(See Note A-3.9.2.2.)

1) Except as provided in Sentence (3), the spatial separation requirements in Subsection 3.2.3. shall apply to self-service storage buildings.
3.9.2.3. **Access Route**

1) Where Clause 3.9.2.1.(1)(b) is applied to a group of buildings, Article 3.2.5.4. and Sentence 3.2.5.5.(1) shall apply to that group of buildings as if they were a single building.

3.9.3. **Floor Areas**

3.9.3.1. **Safety Requirements Within Floor Areas**

1) Except as provided in Sentences (2) to (6), the requirements of Section 3.3. shall apply. (See Note A-3.9.3.1.(1).)

2) Not more than one dwelling unit is permitted to be contained within one of the self-service storage buildings on a property.

3) A dwelling unit referred to in Sentence (2) shall be separated from individual self-service storage units by a fire separation having a fire-resistance rating not less than 2 h.

4) Where an office not more than 50 m² in area is adjacent to a dwelling unit referred to in Sentence (2), it shall be considered as part of the dwelling unit.

5) Fire separations required by Sentences 3.3.1.1.(1) and 3.3.5.9.(1) need not be provided between individual self-service storage units.

6) The floor area of self-service storage buildings shall be
   a) subdivided into compartments not more than 500 m² in area by a fire separation having a fire-resistance rating not less than 1 h, or
   b) sprinklered.

(See also Sentence 3.4.6.12.(2) for the exemption applying to exit doors of individual self-service storage units.)

3.9.3.2. **Sanitary Facilities**

1) Except as provided in Sentence 3.7.2.1.(1), two public washrooms, each containing a water closet and a lavatory, shall be provided within one of the self-service storage buildings on the property. (See Note A-3.9.3.2.(1).)

3.4.6.12. **Direction of Door Swing**

1) Except for doors serving a single dwelling unit and except as permitted by Sentence (2) and Article 3.4.6.14., every exit door shall
   a) open in the direction of exit travel, and
   b) swing on its vertical axis.

2) Exit doors need not conform to Sentence (1), where
   a) they serve storage garages serving not more than one dwelling unit,
   b) they serve accessory buildings serving not more than one dwelling unit,
   c) they
      i) serve storage suites not more than 28 m² in area that are on the first storey in warehousing buildings, and
      ii) open directly outdoors at ground level, or
   d) they serve individual self-service storage units referred to in Section 3.9.
Make-Up Air for Depressurization

Question:
In meeting with CHBA Edmonton it appears our Builders have the understanding that no MUA is required in a residential application providing they use direct vent or mechanically vented gas appliances. They cited 9.32.3.8 in their defense. Article 9.32.3.8 only applies to spillage susceptible appliances. Is it correct to negate the rest of Section 9.32 for the sake of one article?

As per Article 9.32.3.8, where dwelling units contain a fuel-fired space heating appliance, or a fuel-fired water heating appliance, where these appliances are direct-vented or mechanically vented, protection against depressurization is not required.

There are some appliances available which have been tested to comply to the Gas Code CSA B149.1, as meeting category III or IV which are designed to be mechanically vented.

Where these appliances are being proposed, the SCO should confirm that the appliances are classed as category III or IV, are mechanically vented, and that the appliance has been installed with or without combustion air as per the manufacturer’s installation instructions. The SCO has the ability to permit the installation of these appliances, (which draw air from the inside of the house), without requiring additional make-up air.

Background Information:
2014 Alberta Building Code
9.32.3.8. Protection Against Depressurization (See Appendix A.)
1) This Article applies to
a) dwelling units that contain a fuel-fired space-heating appliance or fuel-fired water-heating appliance of other than direct-vented or mechanically vented types, and
b) ancillary spaces that contain an exhaust device, where the space is not within a dwelling unit in a house with a secondary suite and where the house with a secondary suite contains a fuel-fired space-heating appliance or fuel-fired water-heating appliance of other than direct-vented or mechanically vented types.

Direct-vented (as applying to a fuel-fired space- or water-heating appliance) means an appliance and its venting system in which all the combustion air is supplied directly from the outdoors and the products of combustion are vented directly to the outdoors via independent, totally enclosed passageways connected directly to the appliance.

Mechanically vented (as applying to a fuel-fired space- or water-heating appliance) means an appliance and its combustion venting system in which the products of combustion are entirely exhausted to the outdoors by a mechanical device, such as a fan, blower or aspirator, upstream or downstream from the combustion zone of
the appliance, and the portion of the combustion venting system that is downstream of the fan, blower or aspirator is sealed and does not include draft hoods or draft control devices. (See Appendix A.)

Mechanically Vented
The definition of this term is intended to include all types of appliances and venting systems that rely entirely on fans to evacuate the products of combustion. Systems variously referred to as “forced draft,” “power vented” and “induced draft” in standards and industry terminology may be covered by this definition. The key characteristic of such systems is that they are more resistant to depressurization-induced spillage of combustion products into the building in which they are housed because the combustion venting system downstream of the fan is “sealed,” i.e. includes no draft hood or draft control device.

2014 ABC
A-9.32.3.8. Protection against Depressurization. When an exhaust device extracts air from a house and there are no provisions for the introduction of outdoor air, such as by means of an outdoor air duct as required by Articles 9.32.3.4. and 9.32.3.5., and no supply fans are operating simultaneously, the exhausted air will automatically be replaced by outdoor air that has infiltrated through the house’s building envelope.

The rate of inward leakage will automatically equal the rate of outward extraction: otherwise the house would eventually implode. The instant the exhaust device is turned on, the house pressure is lowered and the inside/outside pressure difference drives outdoor air in through any leaks it can find. See Figure A-9.32.3.8.-A.

Even if the house is made more airtight, the inward leakage will equal the outward fan flow. However, because there are fewer and/or smaller leakage sites in an airtight house, it will take a larger inside/outside pressure difference to drive the same amount of air through the remaining leakage sites. See Figure A-9.32.3.8.-B.

It is possible that the exhaust device will no longer be able to achieve its rated flow when operating against a very high inside/outside pressure difference. However, in this case, the inward flow will also decrease and will still be in equilibrium with the outward flow, but now at a higher inside/outside pressure difference than in a leakier house.

An exhaust device not operated in conjunction with a supply fan will always depressurize a house to some extent—even a leaky house. But it will depressurize a tight house more than it will depressurize a leaky house. And, of course, an exhaust device with a higher capacity will depressurize a house more than a device with a smaller capacity.

Spillage of Combustion Products
Depressurization of the house by the ventilation system or other exhaust devices can cause the spillage of combustion products from certain types of combustion appliances. The types of appliances that are susceptible to pressure-induced spillage can generally be identified by the fact that they are vented through a natural draft chimney rather than through an arrangement that uses a fan to draw the products of combustion out of the house. Naturally aspirated gas furnaces with draft hoods and oil furnaces with barometric dampers are examples of spillage-susceptible appliances.

On the other hand, some gas furnaces with induced draft venting systems and the “sealed combustion” oil furnaces commonly used in mobile homes, are more resistant to spillage. Terms
used in gas appliance standards to describe categories of spillage-resistant appliances include
"direct-vented" and "side-wall-vented."

Almost all fireplaces are spillage-susceptible, even those with so called "airtight" glass doors
and outside combustion air intakes, since most "airtight" doors are not really airtight. Certain
types of gas combustion appliances, such as cooking appliances and "decorative appliances,"
are not required to be vented. Their operation will not be significantly affected by
depressurization of the house.

The Alberta Building Code addresses the potential for spillage from combustion appliances with
requirements for:
• makeup air, and
• carbon monoxide alarms.

**Makeup Air Requirements**
Depressurization caused by the principal ventilation system itself is not an issue in houses with
balanced systems (that is, non-exhaust-only systems). However, the operation of other exhaust
devices, such as stove-top barbecues, can cause depressurization. Therefore, in a house with
spillage-susceptible appliances, any such exhaust devices, including the required supplemental
exhaust fans, must be provided with makeup air [see Sentence 9.32.3.8.(2)].

In the past, the Alberta Building Code and other codes and standards have tended to rely on the
passive supply of makeup air through makeup air openings. This is no longer considered to be a
reliable approach in the context of a simple, prescriptively described system without
sophisticated controls on depressurization. Therefore, the makeup air must be provided by a
supply fan that is automatically activated whenever the exhaust device that requires the makeup
air is activated [see Sentences 9.32.3.8.(2) and (3)].

The need for makeup air can be avoided by not using spillage-susceptible combustion
equipment.

**CSA B149.1 - 4.25.1**
Every heating appliance, water heater, or refrigerator installed in a mobile home or a vehicle,
other than a canvas-top tent trailer, shall be of the direct-vent appliance type or equivalent,
and shall be installed to provide complete separation of the combustion system from the
atmosphere of the space provided for living.
Insulating Water Inlet and Outlet Pipes

Question 1:
Under the 2014 Alberta Building Code, all piping forming part of a continuously operating recirculating service water heating system shall be covered with piping insulation. Could clarification be provided?
The Alberta Building Code and Energy Efficiency requirements mandate that the inlet and outlet piping for a service water heating system, as well as for a heating and cooling system, be insulated to reduce the energy lost through convection.
Although cost prohibitive, the intent of the Articles is to ensure energy efficiency is increased for the overall dwelling.

To formulate a response regarding the interpretation of the requirements for pipe insulation as stated in Sentence 9.36.4.4.(2); our department requested clarification from the National Research Council Canada (NRC). In September 2017 we received a response from the NRC (HSB-15,799) stating as follows and which mirrors the opinion of this department.

As per Sentence 9.36.4.4.(2), insulation would only be require to be applied to the inlet and outlet piping forming the recirculation loop, in addition to the first 2m of the outlet and inlet piping from a storage tank.

Background Information:
2014 Alberta Building Code
9.36.3.4. Piping for Heating and Cooling Systems
2) Except for high-temperature refrigerant piping, all piping forming part of a heating or air-conditioning system shall be located
a) inside the plane of insulation, or
b) within or outside the plane of insulation, provided the piping is insulated to a thermal resistance not less than that required in Subsection 9.36.2. for exterior above-ground walls. (See Appendix A.)

9.36.4. Service Water Heating Systems
9.36.4.4. Piping
1) The first 2 m of outlet piping downstream and of inlet piping upstream leading from a storage tank or heating vessel shall be covered with piping insulation that is at least 12 mm thick.

2) All piping forming part of a continuously operating recirculating service water heating system shall be covered with piping insulation that is at least 12 mm thick.

Functional and Objective Statements
F93 To limit the amount of uncontrolled thermal transfer through system components.
OE1.1 – excessive use of energy
F96 To limit the unnecessary demand and/or consumption of energy for service water heating.

Illustrated Users Guide NBC-10
9.36.4.4. Piping
This Article provides the requirements for the energy-efficient construction and design of piping for service water heating systems. Covering the first 2 m (6 ft. 6 in.) of outlet piping with insulation provides a simple method to reduce the heat loss through the pipes, which results in decreasing the amount of energy required to heat the water. The Article also includes minimum insulation requirements for recirculation lines.
The requirements target periods of stand-by, where the water is not being used, and a substantial amount of heat loss from the pipes occurs directly adjacent to the tank. Insulating this portion of the pipes can reduce the heat loss at these locations.

ASHRAE 62
Defined Terms
Recirculating system; a domestic or service hot-water distribution system that includes a closed-circulation circuit designed to maintain usage temperatures in hot-water pipes near terminal devices (e.g., lavatory faucets, shower heads) in order to reduce the time required to obtain hot water when the terminal device valve is opened. The motive force for circulation is either natural (due to water density variations with temperature) or mechanical (recirculation pump).

Response from NRC
HSB-15,799 Recirculation line in a single family dwelling
Your question:
9.36.4.4. Piping
2) All piping forming part of a continuously operating recirculating service water heating system shall be covered with piping insulation that is at least 12 mm thick.

1. Would you kindly provide your opinion on the insulation requirements around pipes; if the hot water supply lines throughout the home need be insulated or only that part of a recirculating loop?
   “Water throughout the entire system is not being recirculated only this loop, the code states all piping that is part of the system.”

2. What would continuously means here (season, or non-stop circulation?).

Codes Canada response:
Question 1: Only the pipes that form part of the recirculating loop need to be insulation. This is in addition to the requirements of Sentence 9.36.4.4.(1) that requires the first 2m of the outlet and inlet piping from a storage tank.

Question 2: By continuously operating, it is meant that there is a recirculating pump continuously operating in order to have hot water in the recirculating loop.

The views expressed in this response are those of the staff of Codes Canada of the National Research Council Canada who assist the committees that are responsible for the preparation of the Codes Canada publications. These views should not be considered as official interpretations of legislated requirements based on the National Building Code, National Fire Code, National Plumbing Code, or National Energy Code for Buildings. The final responsibility for an official interpretation rests with the authority having jurisdiction.
9.36. and Heat Loss

Question:
Performance path compliance summary under HOT 2000, we receive a space heating system number designed by the energy advisor. The heating installer submits a number as per their calculation for the house. The heating installer and energy advisor numbers differ as much 30,000 to 40,000 BTU. When we do our “cheat” sheet our number is different also. I think their might be a disconnect here as the houses are getting tighter and built to use less energy, therefore the furnaces should become less output in BTU’s. There also appears to be an energy designer doing a performance path on the house and the heating installer not considering this, but still design the same old way.

Alberta Building Code 2014 article 9.33.5.1. requires that heating appliances that serve a dwelling unit are determined in accordance with CSA F280. The heating system capacity calculated by the software is dependent on all loads of the house as a system. Hot2000 calculates the exact heat loss but may not include other contingency factors built into the heating programs used by the mechanical contractors, such as duct heat loss, air volumes and distribution.

The following information is required on the modeling report:
1. The equipment type (condensing, induced draft, etc.).
2. Energy source (natural gas).
3. Output capacity (kW or btu/hr) “Higher calculated values as per the Mechanical contractor may be accepted”
4. Efficiency of the furnace (AFUE)
5. Information about the furnace fan.

Any change in the output capacity will change the output of the annual energy consumption. (see Q&A below)

Note that based on the heat loss calculation the software calculates, HOT2000 won’t accept values that are below the heating demand but will accept values which are above.

The higher the capacity the less energy consumption.

Questions
1. When the energy advisor submits a furnace size and energy efficiency on his HOT 2000 program, must it be the same as what the installer submits with their calculation?
   No. H2K (HOT 2000) models are for the energy comparison and not for calculating heat losses for mechanical.
2. **Should the energy advisor be designing to what the furnace installer has sized to or design to the construction of the house?**

   Energy advisors do not calculate heating capacities, the software gives an option of calculating it automatically for both the reference and the proposed house, these value are good for comparison (for calculating the annual energy consumption) but not for the required heating capacity as per CSA- F280, also Energy advisors are not required to do heating capacity calculation according to NRCAN requirements, although that is an option in HOT2000.

3. **Is the heating being designed under CSA F280 with energy advisor?**

   H2K does calculate heating loss and adjusts value according to the components of the building; energy advisories can’t verify or adjust any values under F280 in H2K.

   We don’t have enough information about how much of this standard has been incorporated in the program, **NRCan has been contacted to confirm if all the standard requirements are been addressed in H2K.**

**Background Information**

**CSA F280**

The AIM2.xls spreadsheet is based on the AIM-2 MODEL (Alberta Air Infiltration Model VERSION 1) developed by I.S. Walker and D.J. Wilson, University of Alberta, Department of Mechanical Engineering, Technical Report 71, January 1990 and implemented in the HOT2000 Energy Simulation computer program since 1993. The current AIM-2 model has the distinct enhancement of including the effects of both balanced and unbalanced mechanical ventilation, the effects of wind and shielding parameters, and takes flues into account. In general, the AIM-2 model results in a reduction in space heating loads for houses that are "very tight" and, given that energy efficient buildings are achieving increasing levels of air tightness and include mechanical ventilation, recognition of these improvements was considered critical to the accuracy of heat loss and heat gain calculations.

**CSA F280**

The 2012 edition of this Standard was able to build on the principles of earlier versions with specific advancements in how foundations, air leakage, and windows are modeled. These enhancements were based largely on work that was done by Natural Resources Canada in their development of the current versions of the HOT2000 Energy Simulation Software. Many changes in this edition of the Standard were designed to reflect advancements in building science and the increasing energy efficiency of new buildings and to ensure accurate sizing throughout a range of building ages, locations, and efficiency.

**Questions**

4. **When designing the house under the performance path, would not the houses be tighter and need less of a furnace size?**

   That’s true, in the performance path H2K will always reduce the heating capacity required for the proposed house.
5. Should we still verify 9.33. for size of furnace or let the energy advisor dictate size?
   Local authorities should verify compliance with Section 9.33. Hot2000 is only for comparison.

6. If the energy advisor sets a size, should we expect that size to be installed?
   May not be the same as F280 calculations. Mechanical contractor should set sizing and follow CSA F280 and good practice, local authorities need to verify compliance.

7. When an energy advisor changes the size or ups the size closer to our calculations, should that not change the performance path calculations?
   That is true, but energy advisors will allow the HOT2000 to automatically calculate these values, unless they input calculated values (user defined) through mechanical contractors (very rare). So, allowing the program to automatically calculate values for both reference and proposed will result in fair comparison.

**Summary:**

1. Heating calculation based on CSA F280 is required as per section 9.33., and needs to be submitted to the local authorities for verification.

2. H2K heating calculation is for comparison only between the proposed house and the reference house. This information is superseded by the calculations conforming to 9.33 and CSA F280, completed by the contractor.
Wireless Smoke Alarms

Question:
Can wireless radio frequency smoke alarms be used in new construction and/or existing construction?

Currently there are certified smoke alarms which utilize wireless interconnection technology. For the purposes of the ABC 2014, smoke alarms must be provided with power from a hardwired source and provided with a battery back-up.

Prior to certified wireless interconnectable devices, common practice to achieve interconnection was to hardwire the smoke alarms to each other so the activation of one smoke alarm would cause all of the interconnected smoke alarms to sound. With the advent of wireless interconnection, this same function can be provided wirelessly. It must be noted that at least two certified smoke alarms with wireless capabilities are needed for this interconnection to occur.

Proposed Standard will state: A smoke alarm that is certified in conformance with CAN/ULC-S531, “Smoke-Alarms” and uses wireless interconnection technology is an acceptable means of meeting the interconnection requirements of Sentence 3.2.4.21.(9) and Sentences 9.10.19.5.(1) and (2).

Background Information:

CAN/ULC-S553-02 Installation of Smoke-Alarms
INTERCONNECTED - Installed to operate in combination with other smoke-alarm to provide common signalling on all smoke-alarm such that activation of one smoke-alarm will cause all connected smoke-alarm to sound.

2014 Alberta Building Code
9.10.19.5. Interconnection of Smoke Alarms
1) Except as permitted in sentence (3), where more than one smoke alarm is required in a dwelling unit, the smoke alarms shall be wired so that the activation of one alarm will cause all alarms within the dwelling unit to sound.

2) Smoke alarms in a house with a secondary suite shall be wired so that the activation of any one smoke alarm causes all smoke alarms within the house with a secondary suite to sound.

9.10.19.4. Power Supply
1) Except as provided in Sentences (2) and (3), smoke alarms described in Sentence 9.10.19.1.(1) shall
   a) be installed with permanent connections to an electrical circuit (see A-3.2.4.21.(6)(a) in Appendix A),
   b) have no disconnect switch between the overcurrent device and the smoke alarm, and
c) in case the regular power supply to the smoke alarm is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the smoke alarm for a period of no less than 7 days in the normal condition, followed by 4 minutes of alarm.

3.2.4.21. Smoke Alarms
9) If more than one smoke alarm is required in a dwelling unit, the smoke alarms shall be wired so that the actuation of one smoke alarm will cause all smoke alarms within the dwelling unit to sound.
Micro-Breweries and Distilleries

Question?
Can a distillery be classified as an Occupancy other than an F1 Occupancy?

The Alberta Fire Code provides some clarification on the classification of a building. A distilled beverage alcohol is defined as: *a beverage that is produced by fermentation and contains more than 20% by volume of water-miscible alcohol.*

The AFC indicates that beer, wine, and spirits which contain less than 20% by volume alcohol may not be considered as flammable liquids and therefore, are not regulated under Section 4.10 of the AFC for Distilleries.

Therefore, occupancies such as a micro-brewery which handles only beverages with an alcohol content of less than 20% by volume, has the ability to be classified as other than an F1 occupancy, when demonstrated through empirical data that the risks associated with the amounts of combustible or flammable materials are sufficiently low.

Where the occupancy deals with the distilling, processing or storage in bulk of fermentation containing more than 20% by volume of water-miscible alcohol, these buildings should, as per the requirements of the Alberta Fire Code Article 4.10.2.1. be considered Distilleries, and shall be classified as High-Hazard Industrial occupancies (F1).

The Alberta Fire Code Article 4.10.2.1. does not address a consideration for other classifications based on the size of the operation, or the amount of product within the building. The AFC permits one exception; where the building or parts of the building is used for the storage of closed containers.

**Background Information:**
2014 Alberta Fire Code
Section 4.10. Distilleries
4.10.2. General
4.10.2.1. Building Classification
1) Except as provided in Sentence (2), buildings or parts of buildings in which distilled beverage alcohol is distilled, processed or stored in bulk shall be classified as high-hazard industrial occupancies.

2) Buildings or parts of buildings used for the storage of closed containers of distilled beverage alcohols shall be classified as medium-hazard industrial occupancies.
1.4.1.2. Defined Terms

*Distilled beverage alcohol* means a beverage that is produced by fermentation and contains more than 20% by volume of water-miscible alcohol.

*Closed container* means a container sealed by means of a lid or other device such that neither liquid nor vapour will escape from it at ordinary temperatures.

**A-4.10.1.1.(1)** Beer, wine, and spirits that contain less than 20% by volume alcohol are not considered to be flammable liquids and are not regulated by this Section. Section 4.10. does not apply to wineries where distilled beverage alcohol is used to fortify wine.
Two Furnaces, One HRV

Question:
When a new building is constructed with two furnaces and an HRV, how many HRV’s are required? One for each furnace, or one in total?

There are no requirements within the 2014 ABC, within Section 9.36 Energy Efficiency which require 2 HRV’s when 2 furnaces are installed in a dwelling unit. However, ventilation for a dwelling unit should be designed and installed to meet the requirements of Section 9.32., which is intended to ensure ventilation to a home is distributed through-out the dwelling unit.

Furnace and HRV installations should be designed to meet the requirements of the ABC for ventilation. Where two separate furnaces are installed, and if each furnace is providing ventilation to specific and separate portions of the building, considerations should be provided to ensure ventilation to all portions of the dwelling unit are being achieved.

Background Information:
2014 Alberta Building Code
9.32.3.1. Required Ventilation
1) The heating-season ventilation required by Clause 9.32.1.2.(1)(b) shall be provided by a mechanical ventilation system complying with
   a) good practice such as that described in CAN/CSA-F326-M, “Residential Mechanical Ventilation Systems,”
   b) for dwelling units with 5 or fewer bedrooms, the balance of this Subsection, or
   c) Part 6. (See Appendix A.)

2) Mechanical ventilation systems complying with the balance of this Subsection shall incorporate at least the following components:
   a) a principal ventilation system complying with Article 9.32.3.3.,
   b) supplemental exhaust fans complying with Article 9.32.3.7., and
   c) protection against depressurization in accordance with Article 9.32.3.8.

9.32.3.3. Principal Ventilation System
(See Appendix A.)
1) The principal ventilation system shall incorporate the following components:
   a) a principal ventilation fan complying with this Article, and
   b) provision for the introduction of outdoor air to the dwelling unit, in conformance with Article 9.32.3.4. or 9.32.3.5.

2) The principal ventilation fan shall be capable of operating at an exhaust capacity complying with Table 9.32.3.3., referred to hereinafter as the “normal operating
3) The requirement for a principal ventilation fan may be satisfied by a single fan, by the exhaust side of a heat recovery ventilator, or by a group of fans, provided all fans in the group are controlled simultaneously by a controller complying with Sentences (5), (6) and (7). (See Appendix A.)

**A-9.32.3.3. Principal Ventilation System.** The principal ventilation system circulates air throughout the house for the purpose of maintaining acceptable indoor air quality. Each ventilation system has three main components:
- indoor air exhaust
- outdoor air supply
- distribution of air

**Indoor Air Exhaust**
The principal ventilation fan extracts indoor air. Its operation is linked with a means of introducing and distributing outdoor air to the dwelling unit at approximately the same rate at which the indoor air is exhausted.
The principal ventilation fan must be capable of drawing air from throughout the dwelling unit and exhausting it to the outdoors. Though actual usage will be determined by the occupants, the fan must be capable of continuous operation. Unfortunately, there is no standard method of testing and designating fans for continuous use. Therefore, such a designation is not a mandatory requirement [see Sentence 9.32.3.3.(4)].

### 2010 NBC Intent Statements

**9.32.3.1.(1)**

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**Objective**

**OS3 Safety in Use**

**Attribution**

[F40,F50,F53-OS3.4]

**Intent**

**Intent 1:**
To limit the probability of the inadequate replacement of indoor air with outdoor air, which could lead to excessive negative pressure in dwelling units, which could lead to the spillage of combustion products from fuel-burning appliances that are susceptible to spillage.

This is to limit the probability of the entry of carbon monoxide gas into living space, which could lead to the acute poisoning or asphyxiation of persons.