AMA Regional SCO Meeting  
Concurrent Building Break-Out Session  
1:00 pm – 4:00 pm  
Ballroom 3

**Facilitators**  
Geoff Brownlie, Senior Building Inspector, AMA  
Joe Healy, Building Inspector, AMA

**Representatives**  
Robin Bryski, New Home Buyer Protection Program, AMA  
Josh Fleming, New Home Buyer Protection Program, AMA

### AGENDA

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator/Representative</th>
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</table>
| 1:00 pm - 1:30 pm | New Home Buyer Protection Plan Presentation  | Robin Bryski, Senior Compliance Officer, AMA  
Josh Fleming, Senior Compliance Officer, AMA |
| 1:30 pm - 2:00 pm | Updates from CBA                                | Geoff Brownlie, AMA                                             |
| 2:00 pm - 2:30 pm | General Code Concerns                          | Town of Stoney Plain  
AMA  
Amir Tavakoli, LEED AP BD+C  
AMA  
AMA  
AMA / Safety Codes Council  
Strathcona County  
St. Albert  
Inspections Group |
| 2:30 - 2:45 pm | **COFFEE BREAK**                                | Coffee Sponsored by Safety Codes Council                        |
| 2:45 pm - 4:00 pm | General Code Concerns                          | Leduc County  
Dransfield Inspection Services Ltd.  
St. Albert  
St. Albert  
St. Albert |

**Discussion Topics from Floor**

### ***ADJOURNMENT***

Meeting Minutes will be posted on the Safety Codes Council website

[http://www.safetycodes.ab.ca/SCJ/Pages/Regional-Meetings.aspx](http://www.safetycodes.ab.ca/SCJ/Pages/Regional-Meetings.aspx)

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**Alberta Municipal Affairs (AMA)**
Phone: 1-866-421-6929
E-mail: safety.services@gov.ab.ca

**Safety Codes Council**
Phone: 1-780-413-0099
E-mail: www.safetycodes.ab.ca/
Updates from James Orr – CBA
Implementation and Training for 2011 NECB and ABC 9.36 Energy Efficiency

Next week AMA will be issuing a STANDATA information bulletin that provides guidance with respect to a revised and clarified transition for energy codes; for the authority for safety codes officers to inspect and enforce 9.36 energy efficiency under the Alberta Building Code (ABC) 2014 and the 2011 National Energy Codes for Buildings (NECB); and for the use of professional schedules to document compliance for the NECB. The STANDATA will identify November 1, 2016 as the end of the transition period for both 9.36 of the ABC 2014 and the NECB for energy efficiency. Any building permits received by the accredited authority after that date must comply with 9.36 of the ABC or the NECB as applicable. At this time, energy codes are in transition and if a person chooses to use NECB, they may do so now until after November 1, 2016, when it becomes mandatory. ABC 9.36 energy efficiency comes into force May 1, 2016 and between that date and November 1, 2016, a person may choose to use 9.36 but is not obligated to do so until after November 1, 2016.

The evidence required for determining if the NECB or 9.36 of the ABC applies is that the building permit must be received by the accredited authority by November 1, 2016. The STANDATA will provide guidance respecting site built housing/buildings and manufactured housing. Manufactured housing must be constructed by November 1, 2016 in order not to be subject to energy codes. MA website is being updated and will be completed next week with updated information. An early notice to the Alberta Building Officials Association occurred and has been distributed in response to inquiry to the ministry. The notice to ABOA should be treated as an advance notice, but not the actual guidance. Guidance will occur in the bulletin issued next week.

Why is the transition changing for the NECB?
There is flexibility to allow for an interpretation by the Chief Building Administrator to adjust the transition period. A survey of municipalities and industry as well as input from the building sub-council and professional associations has indicated that the May 1st 2016 mandatory application of the NEC3 will simply not be practical or feasible. The massive changes required to accommodate energy efficiency with respect to guidance, training, preparation and other information necessitates a relatively short extension in order to have a more successful implementation of energy efficiency. Consultation with our counter-parts in other provinces and territories has indicated similar issues and need for extra time and guidance in their jurisdictions, either through formal or informal means. One of the unexpected developments was the lack of readiness by professionals for the use of energy codes, which is critical to the application of the NECB.

SCO and municipal authority to apply energy codes:
The current terms in QMPs and SCO designations have created some confusion respecting an SCOs authority to inspect and enforce energy codes and an accredited body’s authority to administer energy codes. AMA has heard from a number of jurisdictions and SCOs that are of the belief they cannot apply the energy codes because the energy efficiency is not identified in their designation or QMP. This belief is not correct. Both the QMPs and designation of powers will be reviewed and adjusted as necessary to avoid this confusion in the future. In the meantime, Building Safety Codes Officers have the appropriate authority and designation of powers to enforce the 2011 NECB and section 9.36 ABC if voluntarily used by the owner before November 1, 2016 or as required after November 1, 2016. Accredited bodies such as municipalities also have the authority to administer energy codes in accordance with these dates.
Training
The Council is currently finalizing update training for both the 2011 NECB and section 9.36 of the 2014 ABC. All Building SCOs will be required to complete this training, which is expected to be available in late May 2016. The Council will be sending training registration details to all Building SCOs and accredited organizations in April. The fact that training has not occurred in no way affects a building SCOs authority to enforce energy codes in accordance with coming into force dates or voluntary application by an owner. A jointly signed document from the SCC and the CBA respecting training and authority for SCOs will be issued shortly as well.

Documentation of Compliance:
Questions have been raised respecting the application of professional schedules for construction under the NECB. There is a belief circulating that because the professional schedules do not specifically reference energy codes, the professional schedules do not apply to the NECB. This is false. Buildings constructed using the NECB that are Part 3 buildings or assessed by the SCO to require professional involvement (i.e. because of complexity) require professional involvement and schedules. The professional schedules have been under review and revision by a Building sub-council working group and that is why energy efficiency was not specifically listed, but it does apply. Safety codes officers should be requiring professional schedules for documentation of compliance for energy efficiency requirements. The owner and professional have the obligation to satisfy the SCO that energy efficiency requirements has been considered and met.

The building sub-council supported this guidance yesterday and the SCC will work with AMA to promote this and other related information.
Persons with Developmental Disabilities PDD

Question?
What is happening with the PDD Standata and the consultation?
The Minister accepted the Consultation Team’s Phase One recommendations in its summary report to:

1. Repeal the PDD Safety Standards Regulation in its entirety.
2. Implement a co-ordinated approach across relevant ministries, including working with municipalities, to ensure clarity, consistency and alignment in, and implementation of, the repeal of the PDD Safety Standards Regulation.
3. Extend the Consultation Team’s mandate to oversee Phase Two of the Safety Standards Consultation.

“I would like to thank those who shared their views during the consultation. Their valuable feedback told us that safety is important, but that the current Regulation is not the solution. We have heard the disability community loud and clear, and we will continue working to ensure we get this right. Everyone deserves to live safely, and our government is committed to listening to Albertans and ensuring that the dignity of persons with developmental disabilities is upheld.”

Irfan Sabir, Minister of Human Services

“It was important for us to hear opinions and ideas from the community about what makes homes safe, and we appreciate that so many people took the time to sit and talk with us. We look forward to continuing our work on effective provisions for home safety in Phase Two of the consultation. We are committed to working together to identify solutions that will enable Albertans with developmental disabilities to live safely and with dignity.”

John te Linde, Chair, PDD Safety Standards Consultation Team

Government has the following measures in place to support safety during the ongoing consultation:

- Service providers continue to have obligations under their contracts with Human Services to ensure safety, including the adherence to accreditation standards set out by the Alberta Council of Disability Services, which specify safety obligations and procedures.
- Safety codes legislation (i.e. building/fire codes) will apply to homes of individuals receiving PDD services to a residential standard. Inspections will occur based on a referral, complaint or incident. The care standard will still apply when the individual is detained or totally dependent on staff to evacuate in the event of a fire or other emergency.
- Other existing laws still apply, as they do for all Albertans. For example, Alberta Health Services public health inspectors may continue under the authority of the Public Health Act, in circumstances where that act applies, generally in response to complaints.

Full Report available at:

Government of Alberta website:
Alberta Human Services - PDD Safety Standards Consultation
Re: Ongoing Safety Codes Exemption for Specified Residences under the Persons with Developmental Disabilities (PDD) Program

To whom it may concern,

Six months ago, my predecessor Minister Bilous wrote to you regarding placing a pause-period on inspections for accommodations which fall under the Persons with Developmental Disabilities Safety Standards Regulation (Regulation). He issued an exemption order under the Safety Codes Act for these accommodations in October after our colleague, Minister Irfan Sabir, extended the date for compliance with the Regulation. This meant that the inspection program under this Regulation would not proceed until after a consultation had been completed.

Human Services has been leading an extensive consultation with persons with developmental disabilities, their families, service providers, municipal governments, and other stakeholders to find workable ways to ensure individual safety, while also respecting and supporting individuals in their homes and communities.

Human Services has announced that it will be repealing the existing Regulation as an interim step while the consultation team completes its work developing appropriate solutions for accommodations formerly under this Regulation. To enable the continued work of the consultation team, Municipal Affairs is extending the exemption order under the Safety Codes Act until December 30, 2016. This includes the August 2015 Approved Guideline (STANDATA) that applies to accommodations for individuals receiving services from the PDD program. This means that the pause-period for inspections under the Safety Codes Act that began last fall will continue until the consultation team and Human Services have completed their work.

While accommodations formerly covered under the Regulation will be exempt from the care or treatment requirements under the Alberta building and fire codes during this time, they will still need to meet residential safety requirements. As with the previous exemption, this pause-period does not apply to a residence in which a person is dependent on the staff of the residence as the person’s only means of exit in the event of a fire or where a person may be detained as part of their service plan.
Alberta Municipal Affairs continues to encourage individuals, service providers, safety codes officers, and municipalities to work together to identify the safety needs of individuals.

In the interim, should any sensitive compliance issues arise, please contact Alberta Municipal Affairs, Alberta Human Services and/or the relevant municipality to ensure the issue is addressed in an appropriate and timely way.

Sincerely,

[Signature]

Hon. Danielle Larivee
Minister of Municipal Affairs
Repeal of the PDD Safety Standards Regulation

What was the PDD Safety Standards Regulation?

- The Persons with Developmental Disabilities (PDD) Safety Standards Regulation set standards of safety for service providers that contract with the PDD program.
- Standards addressed areas such as environmental health, safety and maintenance requirements; medication assistance; water temperature; concerns and complaints; and compliance with various safety codes and bylaws.

Why was the Regulation repealed?

- During a public consultation on the PDD Safety Standards, it was clear that the Regulation was not working as intended.
- Albertans said that the Regulation was confusing and not the best solution.
- The Minister of Human Services responded to these concerns and repealed the Regulation, effective March 31.
- The Minister supports a second phase of consultation with stakeholders – including individuals with developmental disabilities – to explore solutions on safety that support the personal choices, privacy, priorities and needs of the disability community.

Who participated in the PDD Safety Standards consultation?

- From February 18 to March 14, 2016, more than 750 people attended eight community forums and 1,300 questionnaires were completed.

- Participants included Albertans with developmental disabilities, their families and guardians, PDD service providers, health and safety professionals, landlords, and other stakeholders.

Who is leading the PDD Safety Standards Consultation?

- A team of representatives from the disability community as well as representatives from the broader community is conducting the consultation.

What are the recommendations from Phase One of the consultation?

- The government accepted all three recommendations in the Consultation Team’s Phase One summary report, to:

  1. Repeal the PDD Safety Standards Regulation in its entirety.
  2. Implement a coordinated approach across relevant ministries, including working with municipalities, to ensure clarity, consistency and alignment in and implementation of the repeal of the PDD Safety Standards Regulation.
  3. Extend the Consultation Team’s mandate to oversee Phase Two of the Safety Standards Consultation.
What input did Albertans give during the consultation?

- Consultation participants agreed that safety in the homes of individuals receiving supports from the PDD program is important, but that the Regulation is not the right mechanism to ensure safety.

- Participants’ suggestions to better address safety fell under four main themes:
  1. Clear and consistent communication with and among stakeholders;
  2. Increased training and education for individuals and support staff;
  3. Using existing mechanisms or systems to support safety in homes; and
  4. Meaningful consultation on issues like safety prior to policy development.

What happens next?

- Phase Two of the consultation will begin in May 2016. The Consultation Team will explore solutions on safety with select stakeholder groups, including individuals with developmental disabilities and those involved in supporting their safety and inclusion.
- The Consultation Team will submit a final report and recommendations to the Minister of Human Services.

How will the government support the safety of Albertans with developmental disabilities, as consultation continues?

- The status of home inspections and the application of safety codes is unchanged from the pause period. This means:

- Safety codes legislation (i.e. building/fire codes) will apply to homes of individuals receiving PDD services to a residential standard as opposed to the care standard. The care standard will still apply where an individual is detained or totally dependent on staff to evacuate in the event of a fire or emergency. Inspections will occur based on a referral, complaint or incident.
- Health licensing officers will cease all inspections under the PDD Regulation which has been repealed.
- Alberta Health Services public health inspectors will cease proactive inspections under the PDD Regulation which has been repealed, but may conduct inspections to follow up on previous violations that fall under the Public Health Act. They may also inspect on receipt of complaints about certain types of housing as they would do for all Albertans.
- Service providers continue to have obligations under their contracts with Human Services to ensure safety, including the adherence to the Creating Excellence Together (CET) accreditation standards set out by the Alberta Council of Disability Services. The CET accreditation standards specify detailed safety obligations and procedures in the areas of: physical environment; equipment maintenance; risk management; medication assistance; and complaints and concerns.

Where can I get more information?

- Learn more and read the Consultation Team’s Phase One Summary Report at humanservices.alberta.ca/pddconsultation
## Overview of PDD Funding Categories – Home Living Supports

**Overnight Staffed Living Arrangements**
An individual may live in a home that is staffed overnight to receive services up to 24 hours/day. Other individuals can also reside in the home and share services. Staff may be regularly scheduled or on call, sleep or awake flexibility employees and not considered part of the household.

**Support Home/Supportive Roommate Living Arrangements**
An individual receiving PDD supports lives with a person(s) without a developmental disability who provides support to the individual in a family-type arrangement. These supports are not generally 'scheduled'. The home is considered to be the personal residence of all members of the household.

**Supported Independent Living Arrangements**
An individual can receive staff supports that will assist them to live in their home. They may or may not be living with others who also have a developmental disability. These supports focus on developing and maintain skills to live independently.

**Respite Supports**
Provides a short break for caregivers. These supports can be provided either in the home where the individual receiving PDD supports lives or outside the home.

## Numbers of People Accessing Home Living Supports

<table>
<thead>
<tr>
<th>Region</th>
<th>Overnight Staffed Living Arrangement</th>
<th>Support Home Supportive Roommate</th>
<th>Supported Independent Living</th>
<th>Total Individuals across all three</th>
<th>Individuals accessing multiple home living supports in one year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total  FMS  SP</td>
<td>Total  FMS  SP</td>
<td>Total  FMS  SP</td>
<td>Total  FMS  SP</td>
<td>Total  FMS  SP</td>
</tr>
<tr>
<td>Northwest</td>
<td>198    16   184</td>
<td>50     13    39</td>
<td>137   18   120</td>
<td>385   47   343</td>
<td>18    1   16</td>
</tr>
<tr>
<td>Northeast</td>
<td>18     0     18</td>
<td>1      1     0</td>
<td>13    0     13</td>
<td>32    1    31</td>
<td>1     0   1</td>
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<tr>
<td>Edmonton</td>
<td>1452   59   1396</td>
<td>414    29    385</td>
<td>598   53   547</td>
<td>2464   141   2328</td>
<td>80    2   75</td>
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<tr>
<td>Central</td>
<td>725    15   710</td>
<td>256    51    207</td>
<td>553   61   494</td>
<td>1534   127   1411</td>
<td>40    3   34</td>
</tr>
<tr>
<td>Calgary</td>
<td>434    7    428</td>
<td>1189   155   1041</td>
<td>396   35   362</td>
<td>2019   198   1831</td>
<td>55    0   53</td>
</tr>
<tr>
<td>South</td>
<td>382    0    382</td>
<td>252    10    244</td>
<td>346   7    339</td>
<td>980    17   965</td>
<td>45    0   44</td>
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<tr>
<td>North Central</td>
<td>233    6    227</td>
<td>29     11    18</td>
<td>222   15   207</td>
<td>484    32   452</td>
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<td>2187   270   1933</td>
<td>2259  188  2078</td>
<td>7883   561   7350</td>
<td>261   7   242</td>
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<tr>
<td>Total</td>
<td>3442   103   3345</td>
<td>2191   271   1934</td>
<td>2265  189  2082</td>
<td>7898   563   7361</td>
<td>256   7   238</td>
</tr>
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</table>

**Note:** Total numbers may not be consistent with sum of FMS and SP as some individuals will receive both FMS and SP in the same fiscal year, as well as access more than one type of living arrangements during that same time period.

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1 Excludes respite services and services provided through a government operated location. Figures are inclusive of arrangements funded via contract with agencies and Family Managed Services Funds Administrators.
Updates from CBA on Fall Regional Meeting questions

1. **PDD**
   A report of recommendations was made and accepted as an interim measure. More on this here on our webpage [http://municipalaffairs.alberta.ca/pdd-safety-standards](http://municipalaffairs.alberta.ca/pdd-safety-standards), and the second phase of the consultation is underway now to develop new solutions for these accommodations. The information went out to all municipalities and agencies, building/fire SCOs, CAOs and other safety stakeholders and stakeholders related to this initiative. The second phase of the consultation will conclude near the end of June and there will be more consultations occurring May. In the meantime, inspections are suspended and care standards are exempt from residences accommodating individuals under the PDD program with two exceptions, discussed below.

A key question for safety codes officers relates to the Minister’s exemption order. While safety code legislation, such as building and fire codes, remain in effect for all Albertans. This means building and fire codes will apply to homes of individuals receiving PDD services to a residential standard as opposed to the care standard. The care standard will still apply where an individual is detained or dependent on staff as the only means to evacuate in the event of a fire or emergency. Inspections will occur based on a referral, complaint or incident.

A detention situation is where the individual is prevented from exiting to a safe location without the assistance of another person because of security measures not under the individual’s control. Locked doors and secured windows that the individual cannot access or open are examples of security measures.

A person who is dependent on staff as the only means to exit in an emergency is more subjective, as the range of conditions affecting the building and the individual that apply will vary on a site by site basis. That is why inspectors have been asked to suspend their inspections until new and more flexible solutions are developed under phase two of the consultation. An example of a person dependent on staff as the only means to exit in an emergency would be a person who is confined to a wheelchair or bed and situated in the basement or upper floor. This is not a situation that would be acceptable in a residential accommodation and is not acceptable in an accommodation affiliated with the PDD program.

Retrofits to homes of individuals receiving PDD program supports are only required when directed by a safety code officer based on an inspection. During the extended pause while the second phase of consultations takes place, these inspections are unlikely to occur, unless prompted by a referral from another authority, complaint or incident. Again, unless the situation falls under the two non-exempted categories, no major changes such as sprinklers should be made until solutions are developed under phase two of the consultation.

2. **Energy Codes transition and safety codes officer authority to enforce energy codes**
   Refer to the email I sent out to all Safety Services staff. A bulletin will be issued this week for official province wide guidance and interpretation.

3. **STANDATAS issued under the 2006 codes**
   Until the STANDATAS are replaced or removed as a result of the current STANDATA review, the content of the previous STANDATAS may be applied, provide that the user check to ensure the code references are accurate or adjusted for to the 2014 codes; that the 2014 codes have removed the need for the
STANDATA (i.e. the reason the STANDATA was written is no longer necessary because the 2014 codes have addressed the issue or lack of clarification; and generally that there is no overriding inconsistency or conflict between the 2006 STANDATA and the 2014 codes. Yes, the 2006 STANDATA may be relied upon as an alternative solution where appropriate provided it still provides an approximately equivalent or greater safety performance.

4. Alzheimer’s and Dementia Patients
The only building code compliant way to provide detention for these facilities is to have them built as B1’s both “impeded egress zone” as 3.2.2.19.1(c)(ii) prohibits sleeping accommodation and a “contained use area” must restrict occupant movement to a single room by definition 3.3.3.7. offers no additional guidance. The “areas of refuge” 3.3.3.6. might have some applicability but I don’t think this falls within the intent of the article.

5. Exit signage – when and where the “running man” sign must be located when doing renovations?
Change to new edition requirements throughout each fire compartment as renovated.

6. Photo-illuminescent Exit Signs – Must the charging light be connected to emergency power?
As the anticipation is that the building will be evacuated following a power failure, and as the sign should have been illuminated up to the point the power went out, the answer is “no”.

7. Food Trucks – Has a set of standards been developed/discussed for enforcement by Building SCO’s?
Fire, Plumbing and Gas are working on a set of recommendations about their safety in use. NFPA is drafting a new chapter – NFPA will speak at SCC Summit on this topic – as an expansion of NFPA 96 is underway to provide for a comprehensive food truck standard. This standard could be recognized for use in Alberta prior to its reference in the fire code.

8. Side wall vent terminations – Is a window or door considered as an air intake, and fall under the 900mm clearance requirements?
No. Windows and doors are not air intakes.

9. Barrier-free access – Clarification between building door, suite door, and bathroom door for size requirements.
Barrier free access requirements are confused within the ABC. No question about it. The issue is that for a building that receives social funding (government) and is then required to be accessible (formerly “adaptable” the requirements now read that the building is to be accessible, but there is a question as to whether the door to the suite is required to be accessible, and then the application to the doors within the suite. Yes, another STANDATA until the codes are harmonized and fixed. In the meantime, for our purposes, the door to the building is required to be accessible and the door to the suite is required to be accessible and the door to the bathroom should be accessible. There are conditions as you know, such as an upper floor that does not have an elevator is not required to have those doors accessible. Strictly speaking, the way the code is currently written, the doors within the suite do not have to be accessible, where as in the 2006 codes the doors to the bathroom had to be accessible. The doors to the bathroom need to be the accessible width, or it simply doesn’t make sense. That is the guidance I have been providing.

10. A-277 Standard – How are assembly buildings to meet the ABC when the standard does not include this classification? When will the revised standard be adopted?
CSA A-277 was revised and applies to all buildings except Part 10. Owners are expected to become certified to A-277, but we are not pro-actively enforcing to give them time to become certified. The change seemed to catch industry and some municipalities by surprise, although it was presented for public consultation during the code changes.

11. Farm Buildings – Has there been any development with AMA towards the requirements for farms?
No. Alberta is not working on a farm code and buildings for farm and acreage buildings of low human occupancy remain exempt from the Alberta Building Code. The Canadian Commission on Building and Fire Codes and the National Research Council have made the update of the National Model Farm Code a priority at the request of several provinces (Manitoba, Ontario for example) and this work is now in the early stages. This is likely a few years away.

12. Medical Marijuana and Grow-Ops – What are the new commercial operations to be classified as?
F2 occupancy is recommended. This is another STANDATA awaiting development that will provide an interpretation for F2 occupancy. These are buildings that are used as a commercial operation regardless of location in a municipality or upstream. It is an industrial/commercial operation, not an agricultural operation of low human occupancy based on a farm. In those situations where the owner could demonstrate an farm or acreage operation, there is a potential for a variance but it would be highly unlikely. The province will be calling it an F2.
AMA Regional Building / Fire Safety Codes Officer Meeting

Calgary and Surrounding Area
Tuesday, October 20, 2015
9:00 a.m. – 4:00 p.m.
Port-O-Call Best Western – 1935 McKnight Blvd NE – McKnight Room

Co-Facilitators: Charles Maximillian, Field Building Inspector,AMA
                Stephanie Martin, Field Building Inspector, AMA
                Trevor Brice, Chief Fire Administrator, AMA

Representatives: James Orr, Chief Building Administrator, AMA
                Judy Parker, Certification Coordinator, Safety Codes Council
                Tom Harnos, Office of the Fire Commissioner, AMA

1: Stephanie Martin called meeting to order. Introduction of participants include Calgary Fire Department, City of Calgary, City of Airdrie, IJD Inspections, Town of Okotoks, ASET, Town of Cochrane, City of Chestermere, Town of Banff, Strathmore Fire, Davis Inspections, Drumheller Fire, Rockyview Fire, and Airdrie Fire.

2: Ron Foxcroft, President / Owner, Fire Safety Services (Calgary) Ltd. - Counterfeit Paint Spray Booths

- There are counterfeit spray paint booths found with fake SCA labels. Some purchasers are not aware for this.
- Codes & standards have to be met to ensure safety in using the machine.
- This is a safety issue as these units are not properly inspected under safety regulations. As an example, the lights of the units are not in compliance with NFPA 33.
- There is a listing of counterfeit spray booths on the Intertek website.
- Paint booth applications in Alberta require stamped drawings from a licensed Alberta engineer as per the Alberta Fire Code (AFC) & Alberta Building Code (ABC).
- Note that Canadian installations differ from American.
- Note that there will not be a Standata for this.
- For more information contact Ron Foxcroft of Fire Safety Services (Calgary) Ltd. at www.firesafetyservices.ca or visit Alberta Safety Association at www.albertafire.com.
3: **James Orr**, Chief Building Administrator, AMA

**UPDATE**

i) Relevant changes to the Safety Codes Act (SCA)
   
a. Amendments – Timely Coded Option
   
   - Codes will be adopted the same day as the update for the National 210 and enforced 12 months later.
   - The Building and Fire National Codes will be adopted in 2021.
   - Note that the Minister has the ability to bring in the codes earlier or later.

b. Alberta Safety Codes Authority (ASCA)
   
   - Safety Codes Council (SCC) will be administering non-accredited authorities. Judy Parker will provide an update in January 2016.
   - Implementation of the ASCA program is scheduled for January 1, 2016.

c. Administrative Penalties
   
   - Early next year, administrative enforcement penalties will come into place.
   - Officers will be able to issue ticket. i.e. Max load for a building.
   - Considered as or will be a Ministerial Order.
   - This will be a means to deal with offenders on a quicker basis.
   - These penalties were created as an educational component. To send a message out to offenders.
   - Offenders will be posted on website.

d. Provincial Safety Code Officer
   
   - Provincial SCO’s are now granted AHJ authority for all of Alberta.
   - Safety Code Officers (SCO’s) are able help the accredited areas as per Safety Codes Act (SCA 33(1)) for Problem Administration without the need for special Ministerial approval i.e.) Slave lake fires and High River flood.
   - This does not include Federal Airport Reserves.
   - The appeal process can be appealed depending on the size of the penalty and it will go to the Municipal Government board.
   - An offenders list will be generated and it will include the name of business and address. The list can only be issued by Municipal Affairs. Note: Even if appealed, the offender will still be listed.

ii) Harmonized Code Project
   
   - A committee has been created for this project and James is the chair.
   - The committee will be connecting with Municipalities.
   - The focus is to combine the National and Provincial codes (Building and Fire).
iii) Implementation of the National Energy Code of Canada for Buildings
   - Energy code will come into place on November 1, 2015.
   - Updates will be displayed on the Government of Alberta website.

iv) Persons with Developmental Disabilities (PDD)
   - See letter from the Minister included with the Meeting Agenda.
   - An extensive consultation regarding PDD Regulation and explore appropriate measures for the safety of person with developmental disabilities will be launched shortly.
   - Inspection program for the homes under the PDD Regulation will not proceed until after a consultation is completed.
   - An exemption under the Safety Codes Act for PDD residences will be created. This will be in effect until March 31, 2016.
   - The exemption will treat all residences which fall under the PDD Regulation as "residential occupancies".
   - This pause has been included in the Standata.
   - Any Safety Regulations for abuse can be direct to the Safety Codes Council.
   - If an issue is life threatening, definitely enforce it.
   - When fraud is involved, notify Municipal Affairs.
   - List of buildings and sites will be located on the Calgary, Edmonton, and Lethbridge web page.

v) Standata development review
   - The latest versions should be available this coming December or January.
   - They are currently under review to ensure accuracy
   - In the meantime, the current version can be used – check with Municipal Affairs to confirm

4: Judy Parker, Certification Coordinator, Safety Codes Council
i) Certification and Training
   - 2014 ABC & AFC Code Update Training
     o Update training is mandatory for Building Safety Codes Officers (BSCO’s).
     o Deadline to complete update training is July 1, 2016.
     o No mandatory update training is required for Fire Safety Codes Officers (FSCO’s).
   - Certification and Training Structure (Building and Fire)
     o BSCO’s Program – Information booklets were sent to all BSCO’s and accredited organizations in spring of 2014.
○ FSCO’s Program
  - Additional consultation will be conducted later in 2015 and early 2016.
  - Will be implemented in September 2016.

  - Professional Development (for SCO’s)
    ○ Will be implemented in 2017-18 once the ability to track points online is developed.
    ○ One is able to collect 30 points over three years.
    ○ It will be mandatory beginning in 2018. In 2017, participation will be voluntary.

ii) Alberta Safety Codes Authority (ASCA)
  - Begins operations on January 1, 2016
  - Goals are to improve service delivery, consistency, and sustainability.
  - Brings the un-accredited sector into oversight by the Council.
  - Website will be up in in mid-November of this year. askasca@safetycodes.ab.ca

_Update: Implementation of ASCA has been delayed pending final legislative approval (Ministerial Order) being issued. A revised operation start date will be released shortly._

iii) QMP Review
  - Review of Quality Management Plans for accredited organizations will continue into 2016.
  - Aiming to complete by the end of 2016.

iv) Safe Temporary Propane Heat Program
  - Program was designed to help educate and ensure propane heat setups on construction sites are done properly.
  - Ask for “quick reference cards” and information package at communication@safetycodes.ab.ca.

v) Student Awards Program
  - Annual program created to attract qualified applicants to become SCO’s.
  - Application deadlines are October and April each year.
  - Awards are $1000 each.

vi) Systems and Fire Equipment (SAFE) Registry
  - Online listing of individuals qualified in commercial kitchen exhaust cleaning, portable fire extinguishers and fixed fire suppression systems.
  - There will be an annual renewal.
  - Some companies may wish to use this as a marketing tool.
  - Site has been developed but is not online yet.

vii) Certification & Accreditation Awards
- Council awards recognize outstanding contributions of: a Council volunteer member; an accredited organization; and an SCO.
- Nominations open in January 2016. Awards are given out at the Council conference in June.

5: Joint meeting with Building and Fire

- Eddy La Rocque, Senior Fire Protection Engineer, City of Calgary
  2014 ABC 3.2.4.6. & 9.10.1.2. Commissioning of Life Safety and Fire Protection Systems
  2014 AFC 2.1.3.8. Commissioning of Life Safety and Fire Protection Systems

  - There are new code requirements for commissioning Life Safety & Fire Protection Systems.
  - This can be found in the 2014 ABC & AFC.
  - It is a code requirement – applies to fire protection and life safety systems only
  - There is no reference in the standard.
  - Updates to the 2017 ABC & AFC are expected.

- Town of Banff
  - Joint sign off implemented of fire and building for permits.
  - For now, this is a pilot project.
  - Municipal Affairs would like to hear more on the pilot project, if okay.

6: Joint meeting – Building Session

Radon Gas

- If the intent of the 2014 ABC is to gather gases from the center of the space, it does not seem that a perforated pipe would meet the intent. However, if the end of a non-perforated pipe becomes blocked, there is no way to extract the gases from under the slab.

  - Question: Why must the pipe be located at the center of the floor? Answer: To Follow
  - Question: Can the pipe be perforated? Answer: To Follow.

AMA will look at writing up an information bulletin, or some type of communication piece to provide additional clarification on Radon Gas Mitigation Installations.

Secondary Suites

- Approvals for secondary suites always start with Development Permit approvals.
- Changes for secondary suite developments have included requirements for exterior unprotected openings under 9.9.4.5. and 9.9.4.4. The NRC commented confirming that these requirements as stated in the ABC are applicable to secondary suite developments because of the level of safety for fire protection.
NAFS CSA-A440S1 Standard for Windows, Doors and Skylight Installations

- Question Posed: When and how are municipalities checking for compliance to this standard? Answer: SCO’s are looking for confirmation of the labelling on each window.
- The CSA-A440.4 installation standard must be reviewed by SCO’s.
- There needs to be a way to provide SCO’s with training on the standards, or provide a summary of the requirements set out in the standard so that SCO’s have been given the information they need to complete inspections.

Photoilluminescent Exit Signs

- The question has been raised for photoilluminescent signs, on whether they require the charging light to be connected to emergency power supply.
- There are specific lighting/charging requirements within the CAN/ULC-S527 standard for photoillumescent exit signs i.e. color of light, timeframe for charging etc. which should ensure the sign is properly illuminated in emergency situations.
- ABC under 3.4.5.(5) requires that the circuitry serving lighting for externally illuminated exit signs to serve no other equipment, and to be connected to emergency power supply.
- The CBA confirmed he would look into the request for clarification. He would also talk with Fire, and Electrical as the concern overlaps into other disciplines.

Exit Signage

- The installation of the new “running man exit signage” will require some additional clarification in renovation situations. I.e. small area in large buildings, or a renovation to a single floor area in a multistory building.
- A Province wide Bulletin is needed to provide clarification on this; however a common sense approach would seem appropriate.

Manual Pull Stations

- The ABC requirements specify that manual stations (new wording) are required at all exits.
- This has created issues for buildings of more than 3 stories, where the principal entrances for the lower suites in the residential units provide access directly to the exterior. Do these secondary exit doors now require manual stations? Answer: Yes, a principle entrance door would require a manual station in this situation.

Egress Bedroom Windows

- The clearances required around an egress bedroom window have been changed in the 2014 ABC, to 760mm.
- Question Posed: When the window is located below an upper penetration like a deck, what clearances are other SCO’s asking for? Answer: The Appendix notes that an escape path must not go through nor open onto another room, floor or space.
- Calgary has asked for a minimum of 2.1m clearance under a deck, while other jurisdictions have asked for the minimum clearance i.e. 550mm or now 760mm.
- Be aware that where awning windows are installed, the clearance requirements of 760mm plus the height of the window may end up extending out past the typical 1.2m side yard dimension.
Thermal Barriers

- The ABC requires that thermal barriers meet the CAN/ULC-S124 standard; however the Appendix notes indicate that testing which does not exceed 140 degrees after a period of 10 minutes under the CAN/ULC-S101 standard may also be accepted.
- Testing can be specific to the type of material used.
- Calgary noted that there has been some testing under the CAN/ULC-S101, for intumescent paints where the thermal couples have been placed in the wrong location. The thermal couples should be placed between the Thermal barrier and the foam itself. There has been testing completed where the thermal couples were placed in the foam. Acceptance of any intumescent paint as a thermal barrier should be reviewed for this.

Smoke Alarms

- The 2014 ABC requires that smoke alarms in dwelling units be placed within each bedroom and within the hallway to the bedrooms, if one exists.
- If there is no hallway, then at the top of the stairs seems appropriate.
- CAN/CSA-S531 and CAN/ULC-S553 standards have been referenced for smoke alarms and installations.
- Smoke alarms are required to be labelled.
- “NEST” installations required the red wire to be capped off, which would not make it “wired” as is required by the ABC.
- “NEST” systems are not compatible with other “NEST” systems.
- There is a new requirement for a silencing button for smoke alarms. The silencing button should silence the alarm for a maximum of 10 minutes. If the problem exists after 10 minutes, the alarm will sound again.

Smoke Alarms / Carbon Monoxide Alarms

- Carbon monoxide alarms now require interconnection in secondary suites.
- AMA will be coming out with a new STANDATA for situations where new secondary suites are developed with separate utilities. These situations have concerns with meeting both the ABC and the National Electrical Code.

Concrete Manufacturers

- Question was posed to the group, are SCO’s asking concrete manufacturers to be certified to the A23 standard which is referenced in the 2014 ABC. The response was no from all parties.
- Alberta has the Canadian Prestressed Concrete Institute (CPCI) which provides third party compliance audits, however should we be asking for A23 certification.
- Calgary to follow-up on this and provide an update.

Tiny Houses

- These new items may be coming into Alberta.
- AMA is currently not aware of any “Tiny Houses” meeting any CSA standards for construction.
• It is the opinion of SCO’s, that if the structure operates as a building, with the intention of being permanently resided in, then it is a building and must meet the requirements as set out within the ABC.

Food Trucks
• SCO’s cannot enforce the ABC on food trucks.
• AMA has been asked to look at these, to determine if a set of standards can be developed. We are in discussions with NFPA, to review this.
• AMA will provide further information on this at a later date.

STANDATA for sidewall Vent Terminations
• A new joint Gas and Building Standata has been drafted specifically addressing the venting of appliances through a side wall. The standata addressed the venting clearances required under the B149.1 Natural Gas and Propane Installation Code and the discrepancies between it and the 2014 ABC.
• The 900 mm clearance requirements to “air intakes” under the 2014 ABC does not apply to window and doors.

Registered Engineering Professional vs Professional Technologist
• A Registered Professional is regulated solely by APEGA.
• A Professional Technologist (P.Tech) is a new designation within the last three years.
• A P. Tech is regulated jointly by APEGA and ASET, and can stamp his/her own work, however it is only within a specific scope of work.
• There are roughly 500 P. Tech’s in Alberta.

7: Joint meeting – Fire Session

Pat Purnell, FE Program Manager for Intertek: Fire Extinguishers (FE) Labelling and Listing - Information
• Fire Extinguisher (FE) Program – to create awareness and educate authorities.
• Consumers, public, SCO’s must ensure fire extinguishers are in compliance and must have a label with a certificate number and WHI marker/logo
• UL is American. Labels should be in compliance with Canada → ULC.
• UL and ULC are not harmonized only the rating is.
• Even though you are a ULC company and are certified you can recertify an American product.
• Contact Pay for questions or concerns at 403-877-0586 or via email at patrick.purnell@intertek.com.
• There should be a 6 year testing requirement put into place. Within those 6 years, FE’s that are not in compliance should be replaced.

Tom Harnos, Field Officer, OFC – 2014 Alberta Fire Code Changes – Information/Update
• From 2006 – 2014 there have been changes to the Alberta Fire Code.
• If reference code does not line up please contact Municipal Affairs and ask for either Tina Parker or Tom Famos.
• Note that changes are also in the Appendix and References sections.
• Note that reported accidents are $250.
Orders on New Home buyer Protection Plan Requirements

Question?
Can an SCO issue an Order for lack of New Home Buyer Protection Insurance?
If the insurance coverage required under NHBP was to lapse or be rescinded by the insurance provider, a Building SCO can cancel or suspend a permit because the terms of the issuance of the permit have been contravened.

If a permit has been cancelled or suspended, it is within the Building SCO’s authority to issue a Stop Work Order until such time as the permit can be reinstated.

Background Information
2014 Alberta building Code
2.2.10.7. Permit Revoked
1) The authority having jurisdiction may revoke a permit if
a) there is a contravention of any condition under which the permit was issued,
b) the permit was issued in error, or

c) the permit was issued on the basis of incorrect information.

2.2.10.8. Refusal to Proceed
1) The authority having jurisdiction may refuse to allow any building, project, work
or occupancy that would not be permitted by the Safety Codes Act, this Code or other legislation.

Permit Regulation
Building Permit
6 (2) A permit issuer shall not issue a permit for a proposed new home unless the applicant
provides evidence to the permit issuer, in a form acceptable to the Registrar, that the proposed
new home has been registered with the Registrar under the New Home Buyer Protection Act
and

(a) Has the required home warranty coverage
(b) Will be built by an owner builder who has a valid authorization, or
(c) Is otherwise exempted under the New Home Buyer Protection Act from having the
required home warranty coverage.

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

(a) in the case of an addition or alteration, the existing undertaking is unsafe or will reduce
the level of safety of the undertaking governed by the permit to below that which is
intended by the Act and regulations, codes, standards or body of rules declared to be in
force pursuant to the Act,

(b) incorrect or insufficient information is submitted with respect to the permit or the
undertaking to be governed by the permit,
(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
(f) the permit was issued in error.
Visual Signal Devices

Question?
Where are visual signal devices supposed to be installed? How many are required in a residential suite?

Fire alarm systems with only audible signal devices do not ensure the safety of people who are deaf or hard of hearing. It is important that the audible signal device be accompanied by a visual signal device, so that people who are deaf or hard of hearing are alerted to the emergency. Such a fire alarm system should be installed in all buildings to ensure that emergency systems are accessible.

A visual signal device within a residential suite must provide a signal so that at least one device is visible within a suite. The NBC states that the signal must be visible through-out the floor area of the suite. This wording has not changed in the 2015 NBC, and it is this difference in wording, and the Alberta specific requirements for all buildings which are causing the confusion within industry.

There are two differing thought processes to this requirement.

1) A single visual signal device is adequate within a residential suite. A single device provides a level of safety greater than what was previously required under the 2006 ABC, and does not become too onerous.

2) Because the intent is to provide a level of safety for hearing impaired people, a level of protection equal to that of audible signal devices should be provided. This would require that visual signals must be seen from all locations within the suite. And because closed doors would restrict the passage of light into an adjacent room, common sense would provide justification that additional devices must be placed within each room.

Currently, this question is being reviewed by the Codes and Standards team, but it would seem to make sense that Alberta would follow the same stance as other provinces have taken. This seems in keeping with the wording of the NBC and the definition of "suite" as provided within the Appendix.
It is the Standards Application Teams recommendation that visual signal devices should be installed in all living areas of a suite. Specifically, living rooms, kitchens, and bedrooms. Visual signal devices should not be required in closets, utility rooms, laundry rooms, or bathrooms.

However, all AHJ's have the authority to make the final determination, and to take the information provided by AMA, as well as the information provided from other Provinces, into consideration when determining the requirements they mandate in their jurisdiction.

Background Information:
2014 Alberta Building Code requirements
3.2.4.20. Visual Signals
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible within a suite in which they are installed.

*Suite* means a single room or series of rooms of complementary use, operated under a single tenancy, and includes *dwelling units*, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories as well as individual stores and individual or complementary rooms for assembly occupancies, business and personal services occupancies, medium-hazard industrial occupancies, and low-hazard industrial occupancies. (See Appendix A.)

A-1.4.1.2.(1) Defined Terms.

*Suite*
For certain requirements in the Code, the expression "room or suite" is used (e.g., travel distance). This means that the requirement applies within the rooms of suites as well as to the suite itself and to rooms that may be located outside the suite. In other places the expression "suite, and rooms not located within a suite" is used (e.g., for the installation of smoke and heat detectors). This means that the requirement applies to individual suites as defined, but not to each room within the suite. The rooms "not within a suite" would include common laundry rooms, common recreational rooms and service rooms, which are not considered as tenant-occupied space.

2010 National Building Code
3.2.4.20. Visual Signals
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible throughout the *floor area* or portion thereof in which they are installed.

**Intent 1:**
To limit the probability that persons with hearing impairment will not be promptly notified of a fire situation, which could lead to delays in evacuation or moving to a safe place, which could lead to harm to these persons [Clause (a) and (d)]

**Intent 1:**
To limit the probability that persons relying on visual information to warn them of an emergency situation will not be promptly notified of a fire situation, which could lead to delays in evacuation or moving to a safe place, which could lead to harm to persons.
NFPA 72 National Fire Alarm and Signaling Code
18.5 Visual Characteristics – Public Mode
18.5.1. Visual Signalling
18.5.1.2. The coverage area for visible occupant notification shall be required by other governing laws, codes, or standards. Where the other governing laws, codes, or standards require visible occupant notification for all or part of an area or space, coverage shall only be required in occupiable areas as defined in 3.3.177.

Occupied Area Definition 3.3.177.
An area of a facility occupied by people on a regular basis.

Reference Information from Other Provinces

Winnipeg – See attached Information Bulletin

Ontario Building Code
3. Sentence 3.2.4.19.(4) of Division B of the Regulation is revoked and the following substituted:
(4) Except as permitted by Sentence (6), visual signal devices shall be installed in addition to audible signal devices,
(a) in a building or portion of a building intended for use primarily by persons with hearing impairment,
(b) in a public corridor serving a Group A, B, C, D or E occupancy,
(c) in a corridor used by the public and in a floor area or part of a floor area where the public may congregate in a Group A occupancy,
(d) in not less than 10% of the suites of a hotel or motel,
(e) in a washroom for public use described in Sentence 3.8.2.3.(2), (3), (4) or (6), and
(f) in the living space in a suite of residential occupancy in a Group C major occupancy apartment building.

Canadian Oxford Dictionary
Living Space
An area in a room or house for general use during the day; space for accommodation.

Ontario Building Code
Visual Fire Safety Devices
Approximately 10 per cent of Canadians report having a significant hearing problem. Visual fire alarms and smoke alarms equipped with a visual component are an important part of enhancing the safety and security of all Ontarians. New amendments expand the range of areas where visual fire alarms will be required, including in public corridors of all residential buildings, in all multi-unit residential suites, and in all barrier-free and universal washrooms. Smoke alarms are required by the Building Code to be provided on every floor and in every sleeping room of residential buildings, including all houses. As of January 1, 2015, all smoke alarms will be required to include a visual component conforming to National Fire Protection Association standards.
2. The floor area should have a safe zone that is separated by fire resistive construction, such as a door that has the ability to retard the passage of smoke between zones, and minimizes the distance of travel for those who need to move to another zone. In office buildings, the distance to a safe zone and exit is 40 m; for all other occupancies the distance is no greater than 30 m. The size requirement of each safe zone can be created or designed by the number of occupants who may require assistance in an emergency.

3. Direct exit with zero grade to the exterior of the building is preferred. However, a ramp leading to the exterior ground level is also acceptable.

9.5.2.2. Protection on Floor Areas with a Barrier-Free Path of Travel

1) Where a barrier-free path of travel required in Article 9.5.2.1. is provided to any storey above the first storey, the requirements in Article 3.3.1.7. shall apply.

2) In addition to the requirements of Article 3.3.1.7., every floor area above or below the first storey that is not sprinklered throughout and that has a barrier-free path of travel shall in the case of residential occupancies, be provided with balconies conforming to Sentence (3), except on the storey containing the barrier-free entrance required by Article 3.8.1.2.

3) A balcony required by Sentence (2) shall
   a) have direct barrier-free access from the suite or floor area,
   b) be not less than 1.5 m deep from the outside face of the exterior wall to the inside edge of the balcony, and
   c) provide not less than 1.5 m² of balcony space for each non-ambulatory occupant and 0.5 m² for each ambulatory occupant.

Fire Alert and Alarm Systems

The primary purpose of fire alert systems is to warn occupants to evacuate a building by providing the necessary information. An audible signal must be accompanied with a visual signal to ensure that people who are deaf or hard of hearing and people who are blind receive notification of the alert and/or alarm in an emergency. In addition, the system may include a textual notification appliance to provide further communication for people who are deaf or hard of hearing.

In buildings required to be barrier-free, the audible and visual signals shall be designed and installed to ensure that no harm befalls persons who are deaf or hard of hearing and all others. This can be done by reading and applying the engineering information in the National Fire Protection Association (NFPA) Standard 72® National Fire Alarm Code® handbook, with specific reference to the placement of visual signals when proximity to the audible signals is considered/necessitated.
The National Fire Protection Association® (NFPA) standards are used in this Guide to supplement the Alberta Building Code (ABC) on visual signalling systems. The NFPA® and fire alarm industry has worked closely with various code and advocacy groups in the US to develop safe, reasonable and effective visible signalling requirements that are not as fully referenced in Canadian materials.

Note: It is strongly recommended that ALL designers refer to the National Fire Protection Association (NFPA) Standard 72® National Fire Alarm Code® for further information on the design and installation of visual signaling appliances. The NFPA® has published a National Fire Alarm Code® Handbook 2007 edition that provides important information on good engineering design practises for visual signaling systems.

Note: In the following text, the NFPA 72® Standards are printed in blue.

3.2.4.17. Alert and Alarm Signals

4) In a building, or portion thereof, intended for use primarily by persons with hearing impairment, visual signal devices shall be installed in addition to audible signal devices.

Sentence (4) suggests that visual signalling devices will not be installed (in addition to audible signalling devices) when a building or a portion thereof is not primarily used by persons with hearing impairments. However, this is not considered acceptable. It is strongly recommended that signalling devices be installed in all buildings because persons who are deaf or hard of hearing might use any environment at any time, and emergency systems must be accessible to everyone.

3.2.4.19. Visual Signals

1) Visual signal devices required by Sentences 3.2.4.17.(4) and 3.2.4.18.(7) and (8) shall be installed so that the signal from at least one device is visible throughout the floor area or portion thereof in which they are installed. (See Appendix A.)

2) Visual signal appliances shall conform to ULC-S526, "Standard for Visual Signal Appliances."

3) A visual signal appliance shall be installed in close proximity to each required audible signal appliance.

Sentence (3): close proximity of a visual signalling device to an audible may not be the most effective. Please refer to the NFPA 72® NFAC® Handbook for more information pertaining to the installation of these two signalling devices.

NFPA 72® 7.5 Visible Characteristics - Public Mode.

7.5.1 Visible Signaling. Public mode visible signaling shall meet the requirements of Section 7.5 using visible notification appliances.

A.7.5.1 There are two methods of visible signaling. These are methods in which notification of an emergency condition is conveyed by direct viewing of the illuminating appliance or by means of illumination of the surrounding area. Visible notification appliances used in the public mode must be located and must be of a type, size, intensity, and number so that the operating effect of the appliance is seen by the intended viewers regardless of the viewer's orientation. (See A.7.5 mounting height of appliances.)
Fact Sheet – Visual Fire Safety Alarms

What is the Building Code?

• Ontario’s Building Code addresses new construction, renovations, and change of use or demolition of a building. The Building Code has been in place since 1975 and sets minimum standards for construction in Ontario.

What has changed?

• The 2012 Building Code was recently amended to enhance barrier-free design requirements (accessibility) for new construction and extensive renovations.
• The Building Code already requires that visual fire alarms must be installed in addition to audible fire alarms in public corridors and auditorium areas in a range of building types, including buildings with assembly, care, business and personal services, and commercial occupancies. Examples of these types of buildings are arenas, theatres, churches, hospitals, nursing homes, office buildings and retail establishments.
• Visual fire alarms are already required in at least 10 per cent of hotel and motel suites.
• Audible smoke alarms are required by the Building Code in multi-unit residential buildings and houses and must be installed on every floor and in every sleeping room of dwelling units.
• New requirements expand the range of areas where visual fire alarms are required and set requirements for smoke alarms to be equipped with a visual signal component.
• Requirements take effect January 1, 2015, and apply only to new construction or extensive renovations.

What are the new requirements for visual fire alarms?

• New amendments expand the range of areas where visual fire alarms will be required.
• In large multi-unit residential buildings, visual fire alarms will be required in public corridors and in every residential suite. Visual fire alarms are already required in the public corridors of other building types.
• In all buildings where public washrooms are provided, visual fire alarms will be required in all barrier-free and universal washrooms.

What are the new requirements for smoke alarms?

• All smoke alarms will be required to include a visual signal component, which must meet technical standards specified in Ontario’s Building Code.
• The visual signal is not required to be an integrated component of the smoke alarm. An add-on visual signal connected to the smoke alarm is sufficient to comply with the regulation.
• Battery back-up is not required for the visual signal component of a smoke alarm. This requirement applies only to the audible alarm.

What do I have to do if I own or manage an existing building?

• Unless you are planning an extensive renovation, existing buildings are not affected. You do not have to change or upgrade existing buildings to comply with new requirements.
• Fire safety requirements in existing buildings are set through Ontario’s Fire Code, which is administered by the Office of the Fire Marshal.

Why were these changes made?

• The Accessibility for Ontarians with Disabilities Act, 2005 (AODA) became law in 2005. The purpose of the AODA is to benefit all Ontarians by developing, implementing and enforcing accessibility standards.
• As part of achieving Ontario’s goal of an accessible Ontario by 2025, Ontario is working to create a Building Code that demonstrates leadership in barrier-free design and is responsive to the needs and concerns of all its stakeholders.

Who can I call for more information?

• For more information, visit www.ontario.ca/buildingcode or contact your municipality’s building department.
CLARIFICATION FOR THE INSTALLATION OF FIRE ALARM VISUAL SIGNAL DEVICES

The Manitoba amendment to National Building Code Sentence 3.2.4.20.(1) requires that visual fire alarm signal devices be installed in all buildings.

The City of Winnipeg interpretation of this requirement is that the visual signals must be visible throughout the floor area, similar to the requirement that fire alarm system audibility is required throughout the floor area. It is reasonable then, that the visual signals should be visible from every location where people are likely to spend any length of time.

It should not be assumed that this requirement is met by simply locating visual signal devices in egress routes. In most cases, there will need to be more visual signal devices provided than what is typically provided for audible devices. Refer to CAN/ULC-S524 Standard for guidelines for visibility of visual signals.

By nature of their usage, every bathroom and every sleeping room in suites of residential occupancy shall have visual signals installed. These signals would be in addition to those required in the remainder of the dwelling unit to meet the above noted requirement that the signals be visible throughout the floor area. Refer to the dwelling unit plan below for a typical visual signal layout.

Visual signal devices are required to be installed only where new fire alarm systems are being installed after the coming into force of the January 1, 2012 Manitoba Building Code amendments.

Issued by:
Shirley Jenken, CET, Electrical Technical Support Officer
Development & Inspections Division, Planning Property & Development Department
65 Garry Street • Winnipeg • Manitoba R3C 4K4
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January 29, 2013
note:
The two devices shown at the locations marked “A” may be substituted by the single device shown at location “B” if it is deemed that adequate visibility is provided by the single device.

DWELLING UNIT PLAN – TYPICAL VISUAL SIGNAL LAYOUT
NTS

Visit our Electrical Info Centre at
www.winnipeg.ca/ppl/electrical_info.htm
for all things electrical

January 29, 2013
Visual Signal Devices – A2 Occupancies

Question?

Where are visual signal devices required to be installed in an A2 Occupancy?

Visual signal devices shall be installed in conformance with the ULC-S524-06 standard, so that the signal from a device is visible within a suite in which they are installed.

Under the 2014 ABC, A2 occupancies are now required to provide visual signal devices. A signal from a device must be correctly placed so that the signal is visible at every location within the suite.

The ULC-S524, provides clarification on the correct placements for installation, as well as Tables which provide a determination for which devices could be used for different room configurations.

Additional Reference Information

2014 Alberta Building Code
3.2.4.20. Visual Signals
(See Appendix A.)
1) Visual signal devices shall be installed in addition to audible signal devices in buildings required to have a fire alarm system and shall conform to CAN/ULC-S526, “Visible Signal Devices for Fire Alarm Systems Including Accessories.”

2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible within a suite in which they are installed.

CAN/ULC-S524 2006
“Installation of Fire Alarm Systems”
Visible Signal Devices
5.4.5.5.
In square rooms with wall-mounted visible signal devices centered at the midpoint of the wall, spacing shall be in accordance with Table 5 and Figure 3.

5.4.5.6.
Each wall mounted visible signal device shall cover not more than the area (coverage area) provided in Table 5, based on the effective intensity (candela) of the device, with the device located as shown in Figure 3. Wall mounted visible signal devices shall be provided within rooms such that all portions of the room floor area are located within the coverage area of at least one visible signal device. Refer to Figures 01 - 03 for further information.

5.4.5.7.
In rooms with visible signal devices not centred on a wall, the effective intensity (candela) from one wall-mounted visible signal device shall be determined by maximum room size dimensions obtained either by measuring the distance to the Amendment 1 CAN/ULC-S524-06 February 2011 furthest wall or by doubling the distance to the furthest adjacent wall, whichever is greater, as required by Table 5 and Figure 3.

NOTE: Refer to Figure D1 (Spacing of Wall-Mounted Visible Signal Devices in Room), Figure D2 (Room Spacing Allocation-Incorrect), and Figure D3 (Room Spacing Allocation-Correct) for examples of correct and incorrect spacing allocations.

5.4.5.8
Where a room configuration is not square, the square room size that allows the entire room to be encompassed or allows the room to be subdivided into multiple squares shall be used.

5.4.5.9.
Where multiple wall-mounted visible signal devices are used within a room, the room shall be subdivided into multiple squares and the selection of the device output and location shall be in accordance with Table 5 and Figure 3.

NOTE: Refer to Figure D1 (Spacing of Wall-Mounted Visible Signal Devices in Room), Figure 02 (Room Spacing Allocation-Incorrect), and Figure D3 (Room Spacing Allocation-Correct) for examples of correct and incorrect spacing allocations.

5.4.5.10
Ceiling-mounted visible signal devices shall be suspended or mounted at not more than 9000 mm above the finished floor level in accordance with Table 6.

5.4.5.11
Where the ceiling-mounted visible signal device is not located at the centre of the room, the effective intensity (candela) shall be determined by doubling the distance from the device to the farthest wall to obtain the maximum room size.

5.4.5.12
Installation of visible signal devices in corridors greater than 6000 mm wide shall comply with the spacing requirements for rooms in accordance with Subsection 5.4.5, Visible Signal Devices.

5.4.5.13
Installation of visible signal devices in corridors 6000 mm or less in width shall be in accordance with the requirements of Table 7.

5.4.5.14
Visible signal devices shall be located not more than 4600 mm from the end of the corridor with spacing not greater than 30 m between adjacent signalling devices.
5.4.5.15
Where there is an interruption of the concentrated viewing path, such as a fire door, an elevation change, or any other obstruction, the area shall be treated as a separate corridor.

5.4.5.16
Wall-mounted visible signal devices in corridors shall be permitted to be installed on either the end wall or the side wall of the corridor in accordance with spacing requirements of Clause 5.4.5.15.

<table>
<thead>
<tr>
<th>MAXIMUM AREA OF COVERAGE (m)</th>
<th>MINIMUM LIGHT OUTPUT, CANDela (EFFECTIVE INTENSITY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One Light per Area</td>
</tr>
<tr>
<td>6.10 x 6.10</td>
<td>15</td>
</tr>
<tr>
<td>8.53 x 8.53</td>
<td>30</td>
</tr>
<tr>
<td>9.14 x 9.14</td>
<td>34</td>
</tr>
<tr>
<td>12.2 x 12.2</td>
<td>60</td>
</tr>
<tr>
<td>13.7 x 13.7</td>
<td>75</td>
</tr>
<tr>
<td>15.2 x 15.2</td>
<td>94</td>
</tr>
<tr>
<td>16.5 x 16.5</td>
<td>110</td>
</tr>
<tr>
<td>18.3 x 18.3</td>
<td>135</td>
</tr>
<tr>
<td>21.3 x 21.3</td>
<td>184</td>
</tr>
<tr>
<td>24.4 x 24.4</td>
<td>240</td>
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<td>27.4 x 27.4</td>
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<tr>
<td>30.5 x 30.5</td>
<td>375</td>
</tr>
<tr>
<td>33.5 x 33.5</td>
<td>455</td>
</tr>
<tr>
<td>36.6 x 36.6</td>
<td>540</td>
</tr>
<tr>
<td>39.6 x 39.6</td>
<td>635</td>
</tr>
</tbody>
</table>
TABLE 6
LIGHT OUTPUT FOR CEILING-MOUNTED VISIBLE SIGNAL DEVICES FOR VARIOUS ROOM SIZES
(Reference: Clause 5.4.5.10)

<table>
<thead>
<tr>
<th>MAXIMUM AREA OF COVERAGE (m)</th>
<th>MINIMUM LIGHT OUTPUT, CANDELA (EFFECTIVE INTENSITY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum Mounting Height (m)</td>
</tr>
<tr>
<td>6.10 x 6.10</td>
<td>3</td>
</tr>
<tr>
<td>9.14 x 9.14</td>
<td>3</td>
</tr>
<tr>
<td>12.2 x 12.2</td>
<td>3</td>
</tr>
<tr>
<td>15.2 x 15.2</td>
<td>3</td>
</tr>
<tr>
<td>6.10 x 6.10</td>
<td>6</td>
</tr>
<tr>
<td>9.14 x 9.14</td>
<td>6</td>
</tr>
<tr>
<td>12.2 x 12.2</td>
<td>6</td>
</tr>
<tr>
<td>15.2 x 15.2</td>
<td>6</td>
</tr>
<tr>
<td>6.10 x 6.10</td>
<td>9</td>
</tr>
<tr>
<td>9.14 x 9.14</td>
<td>9</td>
</tr>
<tr>
<td>12.2 x 12.2</td>
<td>9</td>
</tr>
<tr>
<td>15.2 x 15.2</td>
<td>9</td>
</tr>
</tbody>
</table>

TABLE 7
CORRIDOR SPACING ALLOCATION FOR CEILING OR WALL-MOUNTED VISIBLE SIGNAL DEVICES
(Reference: Clause 5.4.5.13)

<table>
<thead>
<tr>
<th>CORRIDOR LENGTH (m)</th>
<th>MINIMUM NUMBER OF 15 cd VISIBLE SIGNAL DEVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 9</td>
<td>1</td>
</tr>
<tr>
<td>10 – 40</td>
<td>2</td>
</tr>
<tr>
<td>41 – 70</td>
<td>3</td>
</tr>
<tr>
<td>71 – 100</td>
<td>4</td>
</tr>
<tr>
<td>101 – 130</td>
<td>5</td>
</tr>
<tr>
<td>131 – 160</td>
<td>6</td>
</tr>
</tbody>
</table>
APPENDIX D (INFORMATIVE) — VISIBLE SIGNAL DEVICES
(Reference: Clause 5.4.4.1, Subsection 5.4.5)

Note: Not all units that comply with CAN/ULC S526, Visible Signal Devices for Fire Alarm Systems. Including Accessories, will have sufficient power or polar dispersion to adequately cover large areas; care will have to be taken to install units with the power and dispersion when large spaces are being designed and installed.

FIGURE D1
SPACING OF WALL-MOUNTED VISIBLE SIGNAL DEVICES IN ROOM
(Reference: Clause 5.4.5.6, 5.4.5.7, 5.4.5.9)
FIGURE D2
ROOMSPACING ALLOCATION - INCORRECT
(Reference Clauses: 5.4.5.6, 5.4.5.7, 5.4.5.9)
FIGURE D3
ROOM SPACING ALLOCATION – CORRECT
(Reference: Clause 5.4.5.6, 5.4.5.7, 5.4.5.9)

✓ CORRECT

VISIBLE SIGNAL DEVICE
(typical)
PROPERLY LOCATED

COVERAGE OF STROBE IN LRH CORNER

30 cd

15.2 m

APPENDIX E (INFORMATIVE) — RESPONSIBILITY DEMARCATIONS FOR INTERCONNECTION OF FIRE SIGNAL RECEIVING CENTRE
(Reference: Clause 5.15.2, Figure 27)
Commissioning of Fire Alarm and Life Safety Systems

Question?
What does the commissioning of Fire alarm and Life Safety Systems mean for SCO’s?
Although not specifically referenced within the 2014 ABC, the CAN/ULC-S1001 standard, expected to be referenced within the 2015 NBC, would be an acceptable piece of reference material to be used when meeting the requirements of the ABC legislation.

Background Information:
2014 Alberta Building Code requirements
3.2.4.6. Commissioning of Life Safety and Fire Protection Systems
1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Alberta Fire Code 2014, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. (See Appendix A.)

A-3.2.4.6.(1) Commissioning of Life Safety and Fire Protection Systems. When commissioning a building, the owner must ensure that the life safety systems and their components (i.e. fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, etc.) are functioning according to the intent of their design. The commissioning provides the documented confirmation that building systems satisfy the intent of the Code. Ultimately, someone will have to ensure that the interconnected operation of all life safety systems within the building has been confirmed: this responsibility may fall on the designer, owner, contractor or a commissioning body. The Alberta Building Code does not specify who must fulfill this role as this is an administrative issue.

2015 NBC

3.2.9. Integrated Fire Protection and Life Safety Systems

3.2.9.1. Testing

1) Where fire protection and life safety systems and systems with fire protection and life safety functions are integrated with each other, they shall be tested as a whole in accordance with CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems,” to verify that they have been properly integrated. (See Note A-3.2.9.1.(I).)
A-3.2.9.1.(1) Testing of Fire Protection and Life Safety Systems. Building owners should verify that fire protection and life safety systems and their components (i.e. fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, fire pumps, generators, etc.), including their interconnections with other building systems, are functioning according to the intent of their design. CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems,” provides the methodology for verifying and documenting that interconnections between building systems satisfy the intent of their design and that the systems function as intended by the Code.

Clause 6.1.5 of CAN/ULC-S1001 allows the Integrated Testing Coordinator to accept documented evidence of any tests that have been performed on a system as part of its acceptance testing for the purpose of demonstrating compliance with the integrated testing requirements of that standard, so as to avoid duplication of work.

2010 NBC Intent Statements
Intent 1:
To limit the probability that integrated life safety and fire protection systems will not meet proper standards, which could lead to such systems not performing in the way intended in a fire situation, which could lead to an inadequate water supply to fire suppression systems or a fire not being suppressed or controlled, which could lead to the spread of fire to other parts of the building, which could lead to harm to persons.

Intent 2:
To limit the probability that integrated life safety and fire protection systems will not perform as originally intended in a fire situation, which could lead to persons not being promptly notified of the fire situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

QUALIFICATIONS
Participants in the Integrated Testing Plan
- Design Professionals, Installing Contractors, Verifying Parties
- Knowledge and experience in the design, installation, and operation of their relevant systems
- Regulations may exist for licensing and/or certification of these individuals

Integrated Testing Coordinator
The integrated testing coordinator must be:
- Knowledge and experience of integrated systems, operation under normal and fire conditions, and methods of validation
- Licenses and Certifications?
  - Standard can’t dictate professional qualifications
  - Only required if required by federal, provincial, territorial or other regulations,
  - Could also be in Owner’s contractual requirements

TESTING REQUIREMENTS
Systems Considered
- Fire Alarm System
- Mass Notification Systems
- Elevators
- Emergency Generators
• A/V and Lighting Control Systems
• Notification Systems
• Sprinkler Systems
• Standpipe Systems
• Fire Pumps
• Water Supplies
• Water Supply Control Valve
• Freeze Protection Systems

• Fixed Fire Suppression Systems
• Cooking Suppression Systems
• Hold-Open Devices
• Electromagnetic Locks
• Smoke Control Systems
• Hazardous Protection Monitoring
• Smoke Alarms

DOCUMENTATION
Integrated Systems Testing Report
• Final Integrated Testing Report consists of the
  • Integrated Testing Plan
  • Documentation collected during Implementation Phase
  • Integrated Testing Forms for Initial Test
  • Integrated Testing Forms for Re-Tests

LIFE CYCLE TESTING
Periodic Integrated Systems Testing
• Routine Integrated Systems Testing throughout the building's life cycle
• Ensure system integrations are maintained
• 1 Year Confirmation Test
• 5 Year Periodic Testing
Intelligibility of Alarms

Question?
What does intelligibility mean?
Canadian Oxford Definition:
Intelligible – 1) Able to be understood; comprehensible. 2) Able to be understood only by the intellect, not by the senses. SCO's should be asking for confirmation that intelligibility to 0.70 Common Intelligibility Scale (CIG) has been met.

Background Information:
2014 Alberta Building Code
3.2.4.22. Voice
Communication Systems
2) The voice communication system described in Clause (1)(b) shall be capable of broadcasting pre-recorded, synthesized, or live messages with voice intelligibility meeting or exceeding the equivalent of a common intelligibility scale score of 0.70. (See Appendix A.)

A-3.2.4.22.(2) Voice Intelligibility.
Common intelligibility scale measuring requirements and guidance on the proper design of intelligible voice and alarm systems can be found in Annex A.7.4.1.4 of NFPA 72, “National Fire Alarm and Signaling Code.”

Definitions
3.3.125 Intelligibility. The quality or condition of being intelligible. (SIG-NAS)
3.3.126* Intelligible. Capable of being understood; comprehensible; clear. (SIG-NAS)

Annex D Speech Intelligibility
D.1 Introduction.
D.1.1 This annex is intended to provide guidance on the planning, design, installation, and testing of voice communication systems. The majority of this annex contains recommendations for testing of the intelligibility of voice systems.

D.1.4 For occupancies that do not yet exist, the designer should have an understanding of the acoustic characteristics of the architectural design, as well as the acoustic performance properties of available loudspeakers. Architecturally, this includes the physical size and shape of the space, as well as the acoustic properties of the walls, floors, ceilings, and interior furnishings.
A proper design analysis can sometimes reveal that an intelligible system is not achievable unless some features of the architectural design are changed. The designer should be prepared to defend such conclusions and, if necessary, refuse to certify the installation of such a system. While “hand calculations” and experience work well for simpler installations, more complex designs are frequently better and more cost effectively analyzed using one of a number of readily available computer-based design programs.

D.1.5 The designer and the authority having jurisdiction should both be aware that the acoustic performance parameters of the chosen loudspeakers, as well as their placement in the structure, play a major role in determining how many appliances are necessary for adequate intelligibility. The numerical count of appliances for a given design and protected space cannot, by itself, be used to determine the adequacy of the design. Sometimes, the acoustic problems of certain placement constraints can be satisfactorily overcome through the careful selection of loudspeakers with the requisite performance characteristics, rather than by increasing their number.

D.2.4 Acceptability Criteria.

D.2.4.1 The intelligibility of an emergency communication system is considered acceptable if at least 90 percent of the measurement locations within each ADS have a measured STI of not less than 0.45 (0.65 CIS) and an average STI of not less than 0.50 STI (0.70 CIS).

D.2.4.2 Speech intelligibility is not a physical quantity like meters, feet, amperes, volts, or even decibels. It is a benchmark of the degree to which we understand spoken language, and as such is a complex phenomenon affected by many variables (Ref: Jacob, K. & Tyson, T., “Computer-Based Prediction of Speech Intelligibility for Mass Notification Systems”, SUPDET 2008, Fire Protection Research Foundation, Mar 2008).

There are two basic categories of intelligibility testing: (1) subject (human) based testing and (2) instrument based test methods. Test methods that use human subjects are only statistical predictions of how well speech might be understood at any other time for any other group of listeners. Several subject based test methods have been extensively researched, tested for reliability, and standardized. Examples include the Phonetically Balanced (PB) word scores (256 words or 1000 words) and Modified Rhyme Test (MRT). (Ref: ANSI S3.2-1989, “Method for Measuring the Intelligibility of Speech over Communication Systems”. Ref: ISO/TR 4870, “Acoustics – The Construction and Calibration of Speech Intelligibility Tests”).

Additional Information from Outside Sources:
Testing can be done through computer programs created by BOSE, or through EASE-EVAC.

EASE-EVAC website – Fee Software for Intelligibility:
http://evac.afmg.eu/
Energy Training Offered through the Safety Codes Council

The Safety Codes Council is happy to announce that two new courses are now available through the Safety Codes Council:

- Alberta Energy Codes for Housing and Small Buildings, ABC 2014, 9.36

Topics covered in the Alberta Energy Codes for Housing and Small Buildings will include the scope of application and different compliance paths listed in Section 9.36 (prescriptive, trade-off and performance) in addition to the process of building energy modelling, HVAC components, and service water heating system requirements. The course is required for all Building SCO.

Topics covered in the National Energy Code for Buildings will include the objective and intent of the NECB, the three compliance paths (prescriptive, trade-off, and performance), the effect of climate zones on requirements and trade-off path provisions. The course is required for Group A2, A3, B2, and B3 Building SCO.

For more information on the dates and on how to register for a course, please follow the [link](http://www.safetycodes.ab.ca/news/Pages/NewsArticle.aspx?id=130).

The courses are offered through the Council as either classroom training or online training. For those attending classroom training, pre-session study is required.

### NECB 2011 Training Dates Currently Available:
- Calgary – Thursday May 5
- Lethbridge – Wednesday May 11
- Leduc – Thursday May 12
- Red Deer – Thursday May 19
- Leduc – Thursday June 9

### ABC 9.36 Training Dates currently Available:
- Calgary – Wednesday May 4
- Lethbridge – Tuesday May 10
- Leduc – Wednesday May 11
- Red Deer – Wednesday May 18
- Leduc – Wednesday June 8

**Course Offerings:**
- Online, or
- Distance Learning

**Course Fees:**
- 2011 NECB Training - $250
- ABC 9.36 Energy Efficiency - $250

**How to Register for Courses:**
Registration for the Energy Training can be completed through the Safety Codes Council. Please see their website:


*** See Additional Handouts for Course Registration Forms ***
Alberta Energy Codes for Housing and Small Buildings ABC 2014, 9.36

Classroom Offerings

Course name: Alberta Energy Codes for Housing & Small Buildings ABC 2014, 9.36
Course ID: 100123
Course cost: $250
Deadline for registration: 2 weeks prior to the offering date

1-Day course (8:00 – 4:30 p.m.)

<table>
<thead>
<tr>
<th>Dates - 2016</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>Wednesday, May 4</td>
<td>Calgary</td>
</tr>
<tr>
<td>Tuesday, May 10</td>
<td>Lethbridge</td>
</tr>
<tr>
<td>Wednesday, May 11</td>
<td>Leduc</td>
</tr>
<tr>
<td>Wednesday, May 18</td>
<td>Red Deer</td>
</tr>
<tr>
<td>Tuesday, May 31</td>
<td>AGM in Banff</td>
</tr>
<tr>
<td>Wednesday, June 8</td>
<td>Leduc</td>
</tr>
</tbody>
</table>

*Additional dates will be advertised on our website.

Access to the online course materials are included in the $250 course fee. There is the option to write the mandatory exam at the conclusion of the class. **Students are responsible for bringing a copy of the Alberta Building Code 2014 to the class** (available through National Research Council Canada).

Registration
Pre-registration for the classroom is mandatory. Registration at the event is not allowed. A registration form is enclosed. The address and room name of class will be provided upon registration.

Inquiries about registration should be directed to the Training Delivery Associates at the Safety Codes Council at (780) 413-0099 or toll-free from anywhere in Alberta at 1-888-413-0099.

Certification
Each Group A and B, Building Safety Codes Officer must complete the Alberta Energy Codes for Housing & Small Buildings ABC 2014, 9.36 training prior to July 1, 2017.
Failure to complete the mandatory code update training will result in the suspension of a safety codes officer’s Certificate of Competency and his/her Designation of Powers.

To maintain your Groups A and B Building certification, you must register for this training through the Safety Codes Council.
Course Registration

[Form filled out with details]

Course Name: Building, Alberta Energy Codes for Housing and Small Buildings, ABC 2014 9.36.

Course ID#: 100123  Fee: $250

Payment Method

☐ MASTERCARD  ☐ VISA  ☐ DEBIT  ☐ CASH  ☐ CHEQUE payable to Safety Codes Council

Declaration and Consent

I certify that I have read and understood all the instructions and information accompanying this application form. I declare that the information given in this application and that all statements made in connection with this application are true and complete. I agree to comply with all rules and regulations in existence or as amended by the Safety Codes Council.

Signature: ____________________________ Date: ________________

Return completed form to:

Safety Codes Council
#1000 10665 Jasper Ave NW
Edmonton, Alberta  T5J 3S9

Email: training@safetycodes.ab.ca
Fax: 780-424-5134 or toll free 1-888-424-5134
Phone: 780-413-0099 or toll free 1-888-413-0099

The personal information requested on this form is being collected for the purpose of managing the Safety Codes Council client database to ensure contact information is accurate and complete. The personal information is being collected under the authority of section 33(c) of the Freedom of Information and Protection of Privacy Act and will be managed in accordance with the privacy provisions under that Act. Some personal information may be disclosed to contracted service providers for SCC research purposes. No personally identifying information will be published. If you have questions concerning the collection of this information, please contact the Manager of Policy and Communications at the Safety Codes Council, 1000, 10665 Jasper Avenue NW, Edmonton, AB T5J 3S9, (780) 413-0099, Toll-Free 1-888-413-0099, for further information on the collection.
National Energy Codes for Buildings, NECB 2011

Classroom Offerings

Course name: National Energy Codes for Buildings NECB 2011
Course ID: 100132
Course cost: $250
Deadline for registration: 2 weeks prior to the offering date

1-Day course (8:00 – 4:30 p.m.)

<table>
<thead>
<tr>
<th>Dates - 2016</th>
<th>Location</th>
</tr>
</thead>
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<tr>
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<tr>
<td>Thursday, May 12</td>
<td>Leduc</td>
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<tr>
<td>Thursday, May 19</td>
<td>Red Deer</td>
</tr>
<tr>
<td>Thursday, June 9</td>
<td>Leduc</td>
</tr>
</tbody>
</table>

*Additional dates will be advertised on our website.

Access to the online course materials are included in the $250 course fee. There is the option to write the mandatory exam at the conclusion of the class. **Students are responsible for bringing a copy of the Alberta Building Code 2014 and NECB 2011 to the class** (available through National Research Council Canada).

Registration
Pre-registration for the classroom is mandatory. Registration at the event is not allowed. A registration form is enclosed. The address and room name of class will be provided upon registration.

Inquiries about registration should be directed to the Training Delivery Associates at the Safety Codes Council at (780) 413-0099 or toll-free from anywhere in Alberta at 1-888-413-0099.

Certification
Each Group A2, A3, B2 and B3, Building Safety Codes Officer must complete the National Energy Codes for Buildings, NECB 2011 training prior to **July 1, 2017**. Failure to complete the mandatory code update training will result in the suspension of a safety codes officer's Certificate of Competency and his/her Designation of Powers.

To maintain your Groups A and B Building certification, you must register for this training through the Safety Codes Council.
Course Registration

☐ Ms.  ☐ Mrs.  ☐ Mr.  

Customer ID:

Name: 

Last Name  First Name  Middle Name

Home Address: 

Street  City/Town  Province  Postal Code

Mailing Address: 

(if different) 

Street  City/Town  Province  Postal Code

Work Phone:  

Fax:  Home Phone:  Cell: 

Email (Required): 

*The personal information requested on this form is being collected for the purpose of managing the Safety Codes Council client database to ensure contact information is accurate and complete. The personal information is being collected under the authority of section 33(q) of the Freedom of Information and Protection of Privacy Act and will be managed in accordance with the privacy provisions under that Act. Some personal information may be disclosed to contracted service providers for SCC research purposes. No personally identifying information will be published. If you have questions concerning the collection of this information, please contact the Manager of Policy and Communications at the Safety Codes Council, 1000, 10665 Jasper Avenue NW, Edmonton, AB T5J 3S9, (780) 413-0099, Toll-Free 1-888-413-0099, for further information on the collection.

Course Name: National Energy Codes for Buildings  NECB 2011  

Course ID#: 100132  Fee: $250

☐ Classroom session date: ________________________________

☐ Distance (correspondence)

Payment Method

☐ MASTERCARD  ☐ VISA  ☐ DEBIT  ☐ CASH  ☐ CHEQUE payable to Safety Codes Council

Card Number:  Expiry Date:

Cardholder Name:  Cardholder Signature:

Address: 

(if different from applicant)

Declaration and Consent

I certify that I have read and understood all the instructions and information accompanying this application form. I declare that the information given in this application and that all statements made in connection with this application are true and complete. I agree to comply with all rules and regulations in existence or as amended by the Safety Codes Council.

Signature:  Date:

Return completed form to:

Safety Codes Council  

#1000 10665 Jasper Ave NW  

Edmonton, Alberta  T5J 3S9

Email: training@safetycodes.ab.ca

Fax: 780-424-5134 or toll free 1-888-424-5134

Phone: 780-413-0099 or toll free 1-888-413-0099

April 2016
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-Constructe Building
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.
2011 NECB and ABC 9.36

NECB 2011 General Information

The NECB User’s Guide – National Energy Code of Canada for Buildings 2011 is a valuable tool that is intended to complement the NECB 2011 to aid in increasing user’s understanding of its intent and application. The NECB is an objective-based code with provisions to limit the probability that buildings will use an excessive amount of energy. The User’s Guide deals with the technical provisions of the NECB, which are contained in Parts 3 to 8 of Division B.

2014 Alberta Building Code
Part 3 Building Envelope –
- Concerned with the transfer of heat and air through the building envelope
- Allowable areas of fenestration and doors
- Air leakage
- Trade-off Path

Part 4 Lighting
- Interior lighting power and controls
- Exterior lighting and controls
- Interior lighting trade-off path

Part 5 HVAC
- Heating, ventilation, a/c equipment including HVAC control systems, piping and ducts forming part of the system
- Trade-off Path.

Part 6 Service Water Heating Systems
- SWH (service water heating) for plumbing services only, excluding systems used exclusively for space heating or cooling for processes. Prescriptive requirements: heating equipment, piping insulation, controls, hot water discharge flow.
- Trade-off Path.

Part 7 Electrical Power Systems and Motors
- Electrical power systems and motors connected to the building’s electrical service; electrical distribution system.

Part 8 Building Energy Performance Compliance Path
- Engineered solutions.

Background Information
Compliance Paths
Prescriptive
Building envelope, interior lighting, HVAC, service water heating. Meets all listed prescriptive requirements in Sections 3.2., 4.2., 5.2. 6.2., 7.2. in the NECB.

Prescriptive with Trade-off (Simple)
Simple trade-off allows some performance elements within any one part to be traded off against another. Calculations and limitations are found in sections 3.3., 4.3., 5.3., 6.3. in the NECB. The
proposed simple trade-offs must represent an equivalent or better level of energy efficiency, while allowing some individual components in the system to exceed or reduce the performance as per the prescriptive requirements.

**Prescriptive with Trade-off (Detailed) for Building Envelope**

Detailed trade-off allows modelling the building envelope, but must use the prescriptive requirements for the electrical and mechanical systems. See subsection 3.3.4. in the NECB.

**Performance**

Whole-building modelling (engineered computer-simulation solution). A proposed building modelled against the reference (prescriptive) building must be less than or equal to the energy efficiency requirements. Energy calculations must be submitted. Consistent minimum acceptable performance levels for all paths is required, and is established by required U-value and maximum FDWR (fenestration-and-door-to-wall ratio) for the climatic conditions of the location. Cannot mix any other path with performance path.

**Building Permit Application**

CAN-QUEST, for example, is Natural Resources Canada building energy software, which can be used demonstrate performance path compliance with the NECB, and will be required prior to issuing a building permit. There are several other energy analysis software programs, all of which must meet the compliance calculations in conformance with ANSI/ASHRAE 140, "Evaluation of Building Energy Analysis Computer Programs" or an equivalent test method.

An NECB summary needs to show how the building will meet the requirements of the NECB. There are currently no standard forms available, and it will be the responsibility of the designer to prove that compliance with the NECB requirements is met. The information provided at the time of the building permit application must be complete and accurate.

... *ASHRAE 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings*

**Part 9 and the NECB**

Compliance

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.

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.)

4) Buildings containing non-residential occupancies whose combined total floor area
exceeds 300 m² or medium-hazard industrial occupancies shall comply with the NECB.
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.)

<table>
<thead>
<tr>
<th>Table A-9.36.1.3.</th>
<th>Energy Efficiency Compliance Options for Part 9 Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Types and Sizes</td>
<td>Energy Efficiency Compliance Options</td>
</tr>
<tr>
<td></td>
<td>ABC 9.36.2. to 9.36.4. (Prescriptive)</td>
</tr>
<tr>
<td>* houses with or without a secondary suite</td>
<td>✓</td>
</tr>
<tr>
<td>* buildings containing only dwelling units with common spaces ≤ 20% of building's total floor area(1)</td>
<td>✓</td>
</tr>
<tr>
<td>* Group C occupancies</td>
<td>✓</td>
</tr>
<tr>
<td>* buildings containing Group D, E or F3 occupancies whose combined total floor area ≤ 300 m² (excluding parking garages that serve residential occupancies)</td>
<td>✓</td>
</tr>
<tr>
<td>* buildings with a mix of Group C and Group D, E or F3 occupancies where the non-residential portion's combined total floor area ≤ 300 m² (excluding parking garages that serve residential occupancies)</td>
<td>✓</td>
</tr>
<tr>
<td>* buildings containing Group D, E or F3 occupancies whose combined total floor area &gt; 300 m²</td>
<td>X</td>
</tr>
<tr>
<td>* buildings containing F2 occupancies of any size</td>
<td>X</td>
</tr>
</tbody>
</table>

Notes to Table A-9.36.1.3.:
(1) The walls that enclose a common space are excluded from the calculation of floor area of that common space.

Additional Reference Information

Wall thermal design calculator:
http://cwc.ca/resources/wall-thermal-design/

Effective thermal resistance calculator:
http://insulation.owenscorning.ca/builders/calculators/thermal-project-calculator/

CHBA
Link to the 2012 CHBA Webinar of 24 January 2012 on the NBC Part 9 Energy Efficiency Requirements:
Comparison between 2014 ABC Section 9.36 Prescriptive Requirements and Previous Requirements
- Without HRV Installation – 5000 – 5999 Heating Degree Days

<table>
<thead>
<tr>
<th>ASSEMBLY</th>
<th>PREVIOUS REQUIREMENTS (R-Value)</th>
<th>2014 ABC SECTION 9.36 (U-Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall</td>
<td>R-12</td>
<td>U-17.5</td>
</tr>
<tr>
<td>Foundation Wall</td>
<td>R-8</td>
<td>U-19.65</td>
</tr>
<tr>
<td>Roof</td>
<td>R-34</td>
<td>U-59</td>
</tr>
<tr>
<td>Floor over unheated space</td>
<td>R-20</td>
<td>U-28.5</td>
</tr>
<tr>
<td>Unheated Floors Below frost line</td>
<td>N/A</td>
<td>Uninsulated</td>
</tr>
<tr>
<td>Unheated Floors Above frost line</td>
<td>N/A</td>
<td>U-11.1</td>
</tr>
<tr>
<td>Heated Floors</td>
<td>N/A or by Design</td>
<td>U-16.1</td>
</tr>
<tr>
<td>Skylights</td>
<td>N/A</td>
<td>U-2.70</td>
</tr>
<tr>
<td>Windows and Doors</td>
<td>N/A</td>
<td>U-1.60</td>
</tr>
</tbody>
</table>
**ENERGY EFFICIENCY**

(2006 BC Building Code Part 10 of Division B)

British Columbia’s commitment to reduce greenhouse gases related to buildings and construction has prompted new building code requirements for energy efficiency. This guide has been prepared to summarize these requirements and to outline the City of Surrey’s policy for building permit submissions with regard to commercial, industrial, institutional, and multi-family buildings.

**General Information**

All building permit applications submitted on or after September 5, 2008 must comply with Part 10 of the BC Building Code, that contains the acceptable solutions, objectives, and functional statements attributed to energy efficiency. In general, the energy efficiency requirements apply to all new buildings and building systems, as well as new construction in existing buildings, including tenant improvements. Requests for interpretations and exemptions (e.g. alternative solutions) will be evaluated on a case by case basis. It is strongly recommended that Registered Professionals incorporate energy efficiency considerations early in the design and construction process in order to achieve the greatest degree of flexibility and compliance.

**Building Code Requirements**

**Part 3 and Part 9 Residential Buildings Less Than 5 Storeys:**
- Compliance with prescriptive insulation requirements of Table 10.2.1.1.A, or
- Achievement of an EnerGuide Rating System rating of 77, or
- Energy computer modelling results that demonstrate equivalent performance to Table 10.2.1.1.A

The EnerGuide 77 rating must be verified by a certified EnerGuide energy advisor licensed by Natural Resources Canada. The energy modelling method requires a comparison of the building energy consumption based on the prescriptive insulation requirements and the proposed design. The energy modeller is not required to be a Registered Professional but should be expected to demonstrate competence.

**Part 9 Non-Residential Buildings:**
- Compliance with prescriptive insulation requirements of Table 10.2.1.1.B

Note that the insulation requirements in Table 10.2.1.1.B are derived from ASHRAE 90.1 Standard (2004 Edition) and specify overall envelope thermal performance in addition to straight insulation values.

**All Other Part 3 Buildings:**
ASHRAE 90.1 Standard

ASHRAE 90.1 "Energy Standard for Buildings Except Low-Rise Residential Buildings" is an internationally recognized standard for energy efficiency in buildings. It provides minimum energy efficiency requirements for buildings as well as building systems and equipment, including the building envelope, HVAC, service water heating, electric power distribution, and lighting. Compliance with ASHRAE 90.1 requires meeting all mandatory provisions in each Section. In addition, the prescriptive requirements in each Section must also be met, unless the applicable Section allows alternative compliance paths through trade-offs. In lieu of meeting the prescriptive requirements, the Energy Cost Budget (ECB) method can be used to achieve compliance. The ECB method enables trade-offs between building systems, and requires computer modelling to demonstrate that the overall proposed building energy performance is equal to or better than the reference building. The reference building is one that complies exactly with the prescriptive requirements. To facilitate both the design and enforcement of ASHRAE 90.1, each Section has accompanying compliance forms and checklists, as well as instructions for their completion. These documents can be found on the Commercial Section website and shall be submitted if requested by the plan reviewer. It is also recommended that Registered Professionals use these resources to become aware of the ASHRAE 90.1 requirements and compliance paths as they relate to the individual building systems as well as the integrated building design.

Submission Requirements

For all Part 3, Part 9 multi-family, and Part 9 non-residential buildings, the Coordinating Registered Professional shall provide a written confirmation of the method that was used to comply with the energy efficiency requirements of Part 10, including all applicable code references and associated standards. Where applicable, the building permit drawings shall also include sufficient information to demonstrate compliance with Part 10. The City of Surrey will randomly audit buildings and may ask for a partial or complete set of compliance documentation for plan review. Each compliance form and checklist shall be signed and sealed by the Registered Professional who accepted responsibility on the Schedule B for the applicable discipline.

If the EnerGuide 77 rating option is chosen in lieu of Table 10.2.1.1.A, evidence of the involvement of a certified energy advisor shall be provided at the time of building permit application and a final report from the advisor shall be submitted prior to final inspection. If the energy computer modelling option is chosen in lieu of Table 10.2.1.1.A, a copy of the modelling summary shall be submitted.

For shell and speculative buildings, all spaces shall be considered conditioned unless approval is granted by the Authority Having Jurisdiction to designate a space as semi-heated or unconditioned. If approved, this condition will be noted on the building permit and the permit drawings for the purposes of future tenant improvement applications and plan reviews.
PART 9 ENERGY EFFICIENCY AND VENTILATION REQUIREMENTS
(For Single and Two Family Dwellings)

British Columbia's commitment to reduce greenhouse gases related to buildings and construction has prompted building code requirements for energy efficiency since 2008. Effective December 19, 2014, substantial new energy efficiency and ventilation requirements in the BC Building Code apply to all Part 9 buildings. This guide has been prepared to summarize the relevant code changes and clarify building permit drawing submissions for single and two family dwellings.

General Information

The BC Building Code contains the acceptable solutions, objectives, and functional statements attributed to energy efficiency and ventilation. It is strongly recommended that designers and builders incorporate energy efficiency and ventilation considerations early in the design process, as well as collaborate with the various trades throughout the construction process, in order to achieve the greatest degree of flexibility and compliance. Building permits for single and two family dwellings, applied on or after December 19, 2014, must comply with the new requirements.

Energy Efficiency Requirements (Section 9.36)

The new energy efficiency provisions treat the building as an interconnected system and provide three compliance pathways for buildings within the scope of this bulletin. Compliance can be achieved through the prescriptive path, the performance path, or the National Energy Code of Canada for Buildings (NECB) path. Most single and two family dwellings will likely utilize the prescriptive path. Climatic zones have been established in order to set the applicable requirements, and Surrey is located in Climate Zone 4 for all compliance paths. Part 3 single family dwellings must comply with ASHRAE 90.1-2010 or NECB 2011, although alternative solution proposals may be considered.
Prescriptive Path (Subsections 9.36.2 to 9.36.4)

The prescriptive requirements address building envelope assemblies in terms of effective thermal resistance and air leakage, and address heating, ventilating, and air-conditioning (HVAC) equipment and service water heating in terms of energy use efficiency. There are also trade-off options within each applicable Subsection. In order to apply these requirements appropriately within the building, the envelope assemblies have been grouped into three categories:

- Above-ground opaque assemblies,
- Fenestration and door assemblies, and
- Below-grade or in contact with the ground assemblies.

Attached garages are considered as unconditioned space even if insulated and heated. The use of a heat recovery ventilator (HRV) can be another factor in determining the requirements, although this does not affect Climate Zone 4.

For the building envelope requirements in Subsection 9.36.2, the minimum effective insulation requirements for various building elements are highlighted below. It is important to note that these are calculated values based on the thermal attributes of the assembly components, not nominal insulation values.
The air barrier considerations at various building locations are highlighted below. The air barrier must be continuous across joints, between assemblies, and around penetrations.

For more information and details on the above figures, refer to HPO Illustrated Guide: Energy Efficiency Requirements for Houses in British Columbia (Climate Zone 4).

The HVAC requirements in Subsection 9.36.3 are concerned with energy use efficiency by systems and equipment used for heating, ventilating, and air-conditioning. The major thrust of these requirements is improved energy efficiency through improved performance targets and standards, temperature control, heat recovery from ventilation systems, and heat recovery from dehumidification systems for spaces with indoor pools and hot tubs. Unless required to be located outside, HVAC equipment must be located inside the plane of insulation.

Similarly, the service water heating requirements in Subsection 9.36.4 are concerned with energy use efficiency by systems used to heat service water for household use and for indoor pools and hot tubs. The major thrust of these requirements is improved energy efficiency through improved performance targets and standards, and control of the equipment.

Performance Path (Subsection 9.36.5)

For the performance compliance path, energy model calculations are required to demonstrate that the proposed building's energy consumption does not exceed that of a reference building, under the same conditions. The reference building is one that exactly complies with the prescriptive requirements.

NECB Path

NECB is a Canadian standard for energy efficiency in buildings, providing minimum requirements for building envelope, lighting, HVAC, service water heating, and electric power distribution. Compliance options within NECB also include prescriptive requirements, trade-offs, and energy-usage based modelling.
Ventilation Requirements (Section 9.32)

Significant refinements to the existing requirements for mechanical ventilation systems have been introduced in this Section for dwelling units. Dwelling units require a mechanical ventilation system that includes:

- A principal ventilation system that provides supply air and includes an exhaust fan,
- Kitchen and bathroom exhaust fans, and
- If the building has a heated crawl space, components to integrate ventilation of the crawl space and the space above or beside it.

Some of the new concepts are the requirements for heat-recovery systems and ducted central-recirculation ventilation systems in which air is supplied to or exhausted from each bedroom in the building. For more information, refer to Information Bulletin No. B4-05 issued by the Building and Safety Standards Branch, which also includes examples of code compliant ventilation systems.

Building Permit Application

In general, the building permit drawings should include sufficient information and details to demonstrate energy efficiency and ventilation compliance, including:

- Energy efficiency compliance path used, including any trade-offs.
- Wall and floor section details, including effective insulation value calculations, for all applicable building assemblies.
- Window and door section details, including overall U-value calculations, for all fenestration, doors, and skylights.
- Assembly details to indicate location of air barrier in walls, floors, and roofs.
- Details of critical assembly junctions to demonstrate the continuity of insulation and air barrier.
- Locations of HRV (if provided), space-heating equipment, and service water heating equipment.
- Performance rating and energy source for all space-heating, space-cooling, and service water heating systems.
- If trade-offs are utilized within the prescriptive path, applicable documentation to be provided.
- If the performance path is utilized, documentation outlined in Subsection 2.2.8 (Division C of BCBC 2012) to be provided, including a house performance compliance calculation report.
- If the NECB path is utilized, documentation outlined in Article 2.2.2.8 (Division C of NECB 2011) to be provided, including a building performance compliance calculation report.

Please refer to the attached sample drawings and calculations for the minimum required information to be shown on building permit drawings.