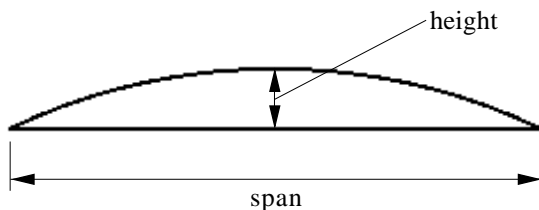




Public Advisory: Unbalanced Snow Loads on Arched Roofs

Building owners should be aware of possible problems resulting from unbalanced snow loads on certain types of arched or curved roof structures.

The Canadian Commission on Building and Fire Codes has issued a special change to the National Building Code of Canada 1995. It has been changed to correct a design shortcoming in long-span arched roofs. This change applies to all types of structures, including wood and steel trusses, glulam arches, corrugated metal, etc. These roofs are often found on industrial buildings and recreational buildings such as curling rinks and skating arenas. The affected roofs have a roof height-to-span ratio less than 1/10 but greater than 1/20. (Roofs flatter than 1/20 and steeper than 1/10 are unaffected by this special change.) Structures of these buildings may not be able to support unbalanced snow loads, and a collapse could occur as a result of drifting on the roof caused by heavy snowfall and high winds.



$$1/20 < \text{height}/\text{span} < 1/10$$

Owners of long-span arch roofed buildings are advised to have their roofs inspected by a professional engineer to determine whether the structure meets requirements for unbalanced snow loads, and to determine whether and what type of remedial action is required. Until inspections have been conducted and, if necessary, remedial work

completed, owners should avoid using these buildings when heavy snowfall and high wind conditions occur, and when a large buildup of snow remains on the roof.

An information package describing the types of buildings and detailed technical information, provided by the Canadian Commission on Building and Fire Codes, is available at www.nrc.ca/ccbfc/changes/snowloads.shtml. Detailed information regarding the revised snow load design criteria can be obtained by contacting the Canadian Codes Centre by phone at (613) 993-9960 or by e-mail at codes@nrc.ca.

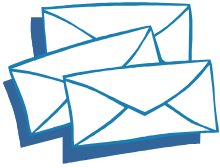
(Our regular readers will note that the text of this special change and a letter from the Secretary of the Canadian Commission on Building and Fire Codes was printed on pages 3 and 5 of the January 2002 issue of this newsletter.) §

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A-3 Farm Buildings



Readers' Letters

If you wish to comment on anything you've read in the Building Officials Newsletter, please send your letter to us by fax, e-mail or post-mail at the addresses listed on the last page.

Venting Laundry Dryers

A question was recently raised about requirements in the National Building Code of Canada (NBC) 1995 for venting laundry dryers. The owners of an apartment-style condominium wanted to install a vent from their in-suite clothes dryer through the floor, so that the dryer would exhaust into the parkade below.

Part 6 of the NBC 1995 contains several provisions that specifically address exhaust ducts for laundry drying equipment. These requirements apply to buildings within the scope of both Part 3 and Part 9, but do not apply to exhaust systems that are entirely contained within a single dwelling unit.

6.2.3.9. Exhaust Ducts and Outlets

5) Except as permitted in Sentence (6), exhaust systems shall discharge directly to the outdoors. (See Appendix A.)

6) Exhaust systems are permitted to exhaust into a storage garage provided such systems serve rooms which

- a) are accessible only from that storage garage, and*
- b) are not served by duct systems serving other parts of the building.*

(See Appendix A.)

7) Exhaust ducts connected to laundry drying equipment shall be independent of other exhaust ducts.

A-6.2.3.9.(5) and (6) Exhausting to Garages. *A frequent practice in the design of ventilation systems serving buildings which have associated parking garages is to discharge exhaust air from the building to the garage in order to reduce the cost of heating the garage or reduce the length of the exhaust ducts. However, this practice entails a certain amount of risk since, when the exhaust*

system is not running, stack effect may turn the exhaust outlets into intakes and exhaust fumes (including carbon monoxide) can be drawn from the garage into the building. Incorporating a backdraft damper at the exhaust outlet provides some additional protection but backdraft dampers are generally not regarded as being very reliable. Therefore this practice is only permitted in very limited circumstances.

Another important issue to examine when considering exhaust ducts for laundry drying equipment is the possibility of fire spreading between fire compartments. When exhaust ducts from drying equipment are fully contained within the suite where the equipment is located, fire separations are not compromised and the possibility of fire spread is not increased. However, ducts that penetrate a membrane forming part of an assembly required to have a fire-resistance rating or a fire separation are subject to requirements. Articles 9.10.13.13.(1) and 3.1.8.7.(1) state, "...ducts that connect 2 fire compartments or penetrate an assembly required to be a fire separation with a fire-resistance rating shall be equipped with a fire damper...". None of the exceptions to these requirements could be applied to the proposed vent from the in-suite clothes dryer into the parkade.

To provide an exhaust duct for the drying equipment it may be necessary to relocate the equipment. The exhaust duct may be routed through the suite and directly to the outdoors, or into a vertical service space or exhaust duct riser providing other code requirements are met. If it is possible to find a suitable way to vent the drying equipment, the implications for make-up air and ventilation must also be considered.

Ideally, provisions for appliances and their services should be considered during the initial design stage of new or renovated buildings. This will help to ensure the efficient use of floor space and the practical location of services, such as water, power, drainage and venting. Designing floor areas specifically for appliances should also reduce the need to penetrate fire compartments and fire separations. For existing buildings, it is paramount that any required additional services due to the installation of appliances are reviewed to ensure that the integrity of fire compartments and fire separations are maintained. §



Canadian Commission on Building and Fire Codes

Report from a Recent CCBFC Meeting

by John Archer, Secretary of the Canadian Commission on Building and Fire Codes (CCBFC)

The Commission met in Winnipeg, October 28-29th. Its main action was to confirm the objectives of the national model codes following the public consultation. Because you will learn about this through other media, I will restrict my report to other key matters addressed at the meeting.

Maximum High Temperature Setting for Residential Hot Water Heating Appliances

The Commission received correspondence from the Board of Directors of the Canadian Medical Association informing it that the CMA had adopted a resolution urging the provincial and territorial governments to amend their building and plumbing codes to require a factory pre-set and installed maximum high temperature setting of 49°C for newly installed residential hot water heating devices. The purpose of this change is to reduce the hazard of scald injuries. The Commission also received additional information on the magnitude of the hazard from Safe Kids Canada.

Currently there is only limited reference to hot water temperature settings in the national codes.

- Article 9.31.6.1 of the National Building Code 1995 states that where a hot water supply is required in a Part 9 building, the heating devices shall be capable of heating a reasonable supply of water to a minimum temperature of 45°C, but not above 60°C.
- Sentence 2.10.7.(3) of the National Plumbing Code 1995 states that where showers are provided they must be equipped with a pressure-balanced or thermostatic-mixing valve that will limit the outlet temperature to a maximum of 49°C. Baths and sinks would not be addressed by this provision.

It has been suggested that the proposed 49°C maximum temperature may be too low to prevent the growth of biological contaminants in water systems, such as legionella bacteria. However, Safe Kids Canada and Health Canada have provided information stating that research has found no evidence of this happening in residential installations.

It was also noted that the outflow temperature of hot water heating systems varied according to the use of the water and that a “blanket” temperature setting might not meet the range of needs. However, the temperature settings could still be changed by the owner if circumstances warranted.

The Commission considered requesting that CSA revise its standards covering residential hot water heating appliances to require that they be preset at the factory at a temperature no higher than 49°C. It was decided, however, that it was not such a big step to introduce such a requirement into the codes themselves. The Commission agreed, therefore, that a proposed technical change be prepared for the National Building Code or the National Plumbing Code, as appropriate, requiring that, at the time of installation, residential hot water heaters be set at a maximum temperature of 49°C and that this proposed code change be issued for public review in 2002.

The Commission on its own does not typically propose a technical change to the codes. These usually come to the Commission on the recommendation of one of its technical Standing Committees. In this instance, however, the Standing Committees had finished their cycle of reviewing and recommending technical changes and were not expected to meet again for over a year. In order for the proposed

(continued on page 4)

(continued from page 3 — Report from a Recent CCBFC Meeting)

technical change to be included in the next editions of the codes, this unusual action was taken. The Standing Committees involved will review the comments received from the public consultation and provide necessary technical input.

Because technical changes that pass through the public consultation route during this code development cycle will not be available until the new objective-based codes are published in 2004, Safe Kids Canada has taken the additional step of requesting that the proposed technical change be treated as a Special Change. This request will be considered by the CCBFC Executive Committee at its meeting in late March/early April 2002. If the Executive Committee agrees that the proposed change meets the criteria for a Special Change, members of the Commission will be balloted.

Carbon Monoxide Alarms

Following Ontario's leadership, and at the request of the other provinces and territories, the Commission agreed to a proposed technical change to the National Building Code to require a carbon monoxide alarm in every building that contains a residential occupancy and a fuel burning appliance or a storage garage. The proposed change includes requirements for the installation of the detector, its location and the standard it is to meet. As in the case of the maximum temperature setting for residential hot water heaters, this is an instance where the Commission itself took the initiative to include this proposed technical change for public consultation. This proposed technical change will be subject to public review in 2002.

Special Changes

The Commission approved two fire-related Special Changes to Part 3 of the National Building Code and one to Part 6 of the National Fire Code. The first addresses foamed plastic insulated panels of the type used for cold storage buildings. The Special Change addresses the past problem of accepting these insulated panels based on equivalency provisions that are not appropriate to this type of system. By testing the panels in a full room arrangement, the contribution to fire growth can be evaluated rather than using the temperature rise criterion for thermal barriers. The second Special Change addresses non-metallic raceways: it will permit larger size non-metallic raceways within a fire compartment. Studies have demonstrated that the heat release from the combustible content of a fire compartment will not be increased substantially. The third Special Change addresses the inspection, testing and maintenance of standpipe and hose systems. Changes in NFPA installation standards to relocate requirements for this activity to NFPA 25 left the National Fire Code references out-of-date. The change directs owners, inspection agencies and authorities having jurisdiction to the correct standard.

Public Consultations

The Commission agreed to reschedule the planned public consultations on proposed technical changes to the 1995 national model codes and the prototype objective-based codes to the fall of 2002. This will be a coordinated national public consultation, where provincial/territorial technical changes will be included in the public consultation. Look for details by late summer 2002.

Errata and Revisions

The Fourth Errata and Revisions to the National Building Code will have been published by the time you read this. The document will contain the Special Changes adopted by the Commission over the last year, updated Tables of Referenced Standards, and a major updating of Table A-9.10.3.1 Fire and Sound Resistance of Building Assemblies.

Your comments on any of the above matters, or requests for more information, are welcome.

John Archer can be contacted at the Canadian Codes Centre at codes@nrc.ca.

Use of Thermo-Pan in Return Air Ducts within Dwelling Units

We have received numerous inquiries from building officials, owners, and suppliers about the use of a product called Thermo-Pan in return air ducts within dwelling units. This product has been available for some time. It appears that some jurisdictions have accepted use of this product and others have not. Although we cannot approve products, we have been asked to provide an opinion about this product with respect to code compliance.

In 2001, in response to questions from building officials, we obtained information about this product and advised that the information did not demonstrate compliance with the requirements of the National Building Code of Canada (NBC) 1995. In summary, the applicable requirements from Article 9.33.6.2. are:

- Combustible ducts must conform to the appropriate requirements for Class 1 ducts in CAN/ULC-S110 "Fire Tests for Air Ducts." Class 1 criteria limits flame-spread rating to not more than 25 and limits smoke developed classification to not more than 50. Mould growth and humidity tests are also specified.
- Combustible ducts cannot be used in vertical runs serving more than 2 storeys.
- Combustible ducts cannot be used in air duct systems in which the air temperature may exceed 120°C.

In conventional sawn lumber framing, use of joist spaces as return air ducts (as with Thermo-Pan) is not permitted because wood joists will not meet the requirements for duct material. As for the Thermo-Pan, submitted test results show it has a flame-spread rating of 65 and a smoke developed classification of 10. Compliance with the other requirements in CAN/ULC-S110 was not addressed in the submitted information.

However, we have been following the code development process with interest because a provision in the NBC 1995 that is directly related to use of joist spaces and this product is undergoing review. We have received information that the Standing Committee on Houses has prepared a proposed change that will be included in the public review package this fall. The essence of the change will be

SPAG News

by Tim Macaulay,
Saskatchewan Health

A meeting of the Saskatchewan Plumbing Advisory Group (SPAG) is scheduled for May 6, 2002. Those who have questions regarding SPAG should contact Tim Macaulay, Saskatchewan Health at (306) 787-7128, fax (306) 787-3237, or e-mail tmacaula@health.gov.sk.ca.

to exempt combustible ducts used as return air ducts within dwelling units from compliance with the applicable requirements in Article 9.33.6.2. This proposal is related to the existing permission in Sentence 9.33.6.14.(5) to use stud spaces in walls for return air within dwelling units. This practice has apparently demonstrated safe and adequate performance.

Please note that this is just a proposal. Public review of proposed changes to the NBC 1995 is scheduled for this fall. If the review does not reveal concerns or objections, the proposal will be incorporated into the next issue of the NBC in 2004. After the NBC is published, it will have to be adopted to make it the law in Saskatchewan.

In the meantime, building officials will have to decide whether they will accept use of Thermo-Pan within their jurisdictions. They can consider the rationale behind the proposed change and the similarity of each situation to the existing permission to use stud spaces in walls in return air systems. They can consider the reports on this product prepared by BOCA Evaluation Services #95-41.1 and ICBO Evaluation Service #ER-5398. These reports can be found online at www.bocai.org and www.icbo.org. §

WETT Training in Saskatchewan

Wood Energy Technology Transfer Inc. is offering several courses in Saskatoon:

Code Compliance	April 29-May 1
Woodburning Systems	May 2-3
Basic Inspection	May 4
New & Review	May 5

For more information contact WETT at 1-888-358-9388 or info@wettinc.ca

Saskatchewan Building and Accessibility Standards Appeal Board

Hearing No. 02.01 – February 6, 2002

On January 9, 2002, the owner applied to the Saskatchewan Building and Accessibility Standards Appeal Board (hereafter known as “the Appeal Board”) under Section 18 of *The Uniform Building and Accessibility Standards Act* for a hearing to appeal a building official’s order issued under Section 17 of the Act. The owner received the order by registered mail on December 28, 2001.

Background

The municipality issued a building permit to the owner on August 2, 1996, for conversion of a three-storey one unit dwelling (OUD) to a two unit dwelling (TUD). The building was originally built as an OUD. Some time before the subject building permit was issued, the OUD was subdivided without permits into four dwelling units. An inspection of the premises by a local public health inspector resulted in the building being placarded as unsanitary and unfit for human occupation in 1994. The owner then purchased the property. The public health notice to the owner identified items that were to be corrected before re-occupying the premises. The public health notice and sketches of the floor plans were filed with the building permit application.

The municipality provided inspection reports of the premises for inspections dated March 13, 1997, January 8, 1998, and August 27, 2001. Two inspection reports noting deficiencies were sent to the owner on January 14, 1998, and August 29, 2001. The municipality issued the subject order to the owner based on an inspection dated December 10, 2001. The order directed the owner to:

1. Provide handrails on all interior stairs with 3 or more risers.
2. Ensure all sleeping rooms have at least one openable window with an unobstructed opening greater than 0.35 m² in area and no dimension less than 380 mm.
3. All openings between adjacent suites must be protected by a fire separation with a minimum 20 minute fire resistance rating.
4. Construct a fire separation with a minimum 20 minute fire resistance rating at the kitchen ceiling.
5. Enclose the furnace room with a fire separation with a minimum 20 minute fire resistance rating including a solid core wood door complete with self-closing device.
6. Provide combustion air at the furnace room.
7. Provide a suitable air cleaner on the furnace.
8. Construct a guardrail on the south side of the rear exterior landing which is at least 900 mm high, non-climbable, and has no opening greater than 100 mm.
9. Repair or replace the dilapidated front exterior steps.

The owner stated that sufficient work had been done to satisfy a public health inspector, and re-occupancy of the building had been allowed. The owner claimed that additional work should not be needed because the tenants had not complained, and requested a full exemption from the order. The owner also stated that if the Appeal Board decided to confirm the order, up to six months would be needed to complete the work.

The municipality submitted photographs that showed the status of the ordered items on January 14, 2002. The municipality’s representative stated that their records did not show any permit activity before 1996. The municipality’s representative stated that all contraventions that the building official ordered to be corrected are considered to constitute unsafe conditions.

The Legislation

The municipality was attempting to obtain compliance with Section 3(1) of *The Uniform Building and Accessibility Standards Regulations*, and in particular the provisions of the National Building Code of Canada 1990 that apply to the items that the owner was ordered to complete, namely: Articles 9.8.7.1, 9.7.1.3., 9.10.9.14., 9.10.10.4., 9.33.1.1., 6.2.1.4., 6.2.3.14., 9.10.13.13., 9.8.8.2., and 9.8.8.4.

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The Consideration

The Appeal Board considered the information and reviewed their authority under Section 18 of *The Uniform Building and Accessibility Standards Act*. The Appeal Board decided to confirm and vary the building official's order by issuing an order to the owner to:

- Undertake work to achieve full compliance with the specific conditions in the order and the National Building Code of Canada 1990, respecting contraventions 1, 2, 6, 8, and 9 in the order.
- Undertake work to achieve full compliance with the National Building Code of Canada 1990, respecting contraventions 3, 4, 5, and 7 in the order. Contact the municipality for more information on how to achieve full compliance.
- Complete the work on or before March 30, 2002.
- Promptly notify the municipality for an inspection when the aforementioned work is completed. §

Spring 2002 SBOA Conference — Panel Session Questions

We are pleased to have attended the Saskatchewan Building Officials Association's (SBOA) spring conference, held this year in Prince Albert. The following is a summary of questions that were discussed during the Building Standards panel session, plus a few additional questions that have been raised over the past few months. We look forward to having the same opportunity to respond to issues during the fall conference, scheduled for October 23–25 in Saskatoon at the Travelodge Hotel.

Q: A 3 storey brick building, approximately 100 years old, is being torn down. The building originally was a school, and was subsequently used as an apartment building. The owner wants to retain the existing concrete foundation and first floor structure, and build a new house on them. The foundation wall is 300 mm thick and appears in good condition. The floor structure is 2 x 14 clear fir joists at 400 mm o.c. which span 7.92 m. Bridging is located approximately 2.4 m o.c. The joists are in excellent condition with no deflection. The building previously accommodated high live and dead loads. Is there a problem allowing re-use of the foundation and floor structure for a house without obtaining an engineer's report?

A: To establish the condition of the foundation, a detailed inspection of the existing superstructure should be undertaken before the building envelope is demolished. This will help to identify possible foundation deficiencies that could be contributing to any apparent above ground structural faults.

The outside of exterior walls should be inspected first, to obtain an indication of how the existing building

structure has performed over its entire life span. There are a number of general indicators which can be used to help identify damaged caused by foundation movement: cracks at weak points in the structure; cracks that diagonally taper from top to bottom; cracks that exceed 3 mm; and cracks that occur both externally and internally at the same location can all be indicators of foundation movement. Vertical compression cracks that fracture brick units are generally attributed to excessive point loading and not associated with foundation movement. The backfill around the foundation wall may indicate drainage problems, if excessive or uneven subsidence is evident.

Moving inside the building, it is necessary to inspect the interior envelope fabric and structural assemblies. The condition of the interior fabric is a good indicator of recent or continual foundation movement. Creased wallpaper or cracked paint at corners and between walls and ceilings, gaps below skirting boards or between floor boards and walls, and sticking doors and windows can all be indicators of foundation movement.

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Next the foundation wall should be inspected. As with the exterior inspection, vertical or diagonal cracks may indicate damage due to insufficient live and dead load carrying capacity. Horizontal cracks may indicate damage due to lateral loads imposed by the backfill. The footing for the wall is not mentioned, so if the wall does not have any signs of damage, the structural capacity of the foundation can only be assumed unless the backfill is removed to expose the footing. The basement floor is not mentioned, either. If any cracking or heaving is present, drainage problems may exist.

Since general settlement occurs in most buildings in their first 25 years, it is important to compare any external cracks with internal fabric conditions. If no clear evidence of movement can be found internally, it could be the case that the cracks developed during the initial 25 years and no further movement has since occurred.

If cracks have been positively identified and the internal conditions suggest that the cracks are recent or continually moving, a number of other external conditions should be investigated, including: the size, position and species of all trees close enough to have an effect on the foundation; local soil conditions such as shrinking clays; structural alterations such as the removal of load-bearing walls or the addition of a second storey that may have altered foundation loads; landscaping, grading, and finally drainage. Poor grading, foundation drainage or water leaking into the ground near a foundation as a result of damaged drains is generally undesirable as it can erode the soil and backfill materials. In shrinking clays, it is also likely to have a local effect on desiccation.

It should be noted that foundation movement is only one of many processes that can cause distortion and cracking in buildings. Other common causes of cracking are frost attack, thermal expansion and contraction, drying shrinkage, over-stressing of walls or floors (e.g. as a result of injudicious structural alterations) and chemical attack. Distinguishing damage due to foundation movement from that caused by these other processes can sometimes be difficult, particularly where the damage is relatively minor.

Nonetheless, if any of the above conditions are observed, it would be advisable to ask the owner for an engineer's report.

If there is no indication of problems, it is probably reasonable to allow re-use of the foundation as proposed, based on past performance of the foundation, without requiring an engineer's report. Assuming that the proposed residential superstructure will be timber frame construction, the imposed loads on the foundation will be considerably less than the previous brick construction, and the capacity of the foundation should not be a problem.

We are told that the floor structure is in excellent condition, but the size and span of the joists are larger than in present-day construction. By looking at the tables for the longest, strongest fir joists, we can estimate the possibility of strength, deflection, or vibration problems. From the code tables, the maximum span of 2 x 12 select structural Douglas fir joists at 400 mm o.c. with bridging is 5.16 m. This is considerably less than the 7.92 m span of the existing joists. Although past performance may be claimed for the joists, too, it would be wise to require installation of a supporting wall in the basement, located at or near mid-span of the joists, or to require an engineer's report on the suitability of the floor structure for the proposed use.

Q: What occupancy classification should be assigned to an exercise gym club? A-3.1.2.1.(1) lists gymnasia under A2 (assembly) occupancy. This is probably where a gym club fits, but is it possible that it could be a D (personal services) occupancy? The club in question is approximately 1000 square feet (93 m²) and, when fully furnished with exercise equipment, will have an occupant load of about 20 people.

A: A gymnasium is correctly classified as an assembly occupancy, but it is also reasonable to question whether the club as described is an assembly occupancy. An assembly occupancy is the occupancy or use of a building or part thereof by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink. There is no question that by calling it an A2 occupancy, the code requirements will be more stringent and the fire, health, and structural safety of the occupancy will be assured. For example, an A2 occupancy classification will require professional design and a building official will have assurance that the floor structure will be

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adequate for any rhythmic, cyclic or point loading that might be associated with a gym. Nonetheless, due to the small size and limited possible number of occupants in the described club, some of the requirements of an A2 occupancy may seem too stringent. A business and personal services occupancy is the occupancy of use of a building or part thereof for the transaction of business or the rendering or receiving of professional or personal services. The classification of the exercise gym club seems to more specifically suit the definition of an assembly occupancy, but a building official must consider the specific characteristics of the proposed space to ensure that suitable fire, health and structural safety requirements are applied. This question has also arisen in the case of small cafés, and there has been some discussion about allowing small A2 occupancies to be included within the scope of Part 9 rather than within Part 3. NFPA 101 “Life Safety Code” allows for a relaxation of some requirements in assembly occupancies when the maximum occupant load will be less than 50 persons. Until a proposed change is submitted and considered by the Standing Committee on Fire Safety and Occupancy, building officials will have to continue to interpret the intent of the code to classify this type of occupancy.

Q: I heard through the grapevine that shingle manufacturers are no longer making low slope shingles. I have not had time to follow up, so I was wondering if you have heard anything? If this is true, how will we comply to the code requirements for triple coverage on lower pitched roofs?

A: We have not heard about this. Since we did not have time to raise this question at the panel session, if anyone has more information about this move by industry, please let us know. If this is true, there would be no way to use asphalt shingles of a roof slope less than 1 in 3 (see Table 9.26.3.1.), unless a special evaluation was completed. The rest of the code provisions about low slope application couldn't be applied to normal application asphalt shingles.

Q: Article 4.3.4.1. of the NBC 1995 requires conformance to CAN/CSA-S16.1 “Limit States Design of Steel Structures.” Clause 23.3 of this standard requires certification of welders by the Canadian Welding Bureau (CWB). Is this reference

intended to apply to miscellaneous structural steel elements such as stairs and handrails?

A: Yes. The certified welding requirement for steel elements applies to buildings and their structural members that support gravity or lateral loads. So welds in stairs, handrails and guards would have to meet the CWB requirements, but not welds in supportive decorative pieces. However, Sentence 4.1.9.1.(15) and Table 4.1.9.1.D prescribe seismic loads for some architectural parts or portions of buildings for which the certification requirement would apply. CAN/CSA-S16.1 requires certification of fabricators and erectors by the CWB in conformance with CSA-W47.1. The purpose of this standard is to provide assurance that a certified company has the capability to produce quality products and services. The CWB is accredited by the Standards Council of Canada to administer certification of companies and people. A company can provide proof of its certification by producing a letter of validation, complete with expiry date, issued by the CWB. Each company must have a designated welding supervisor, qualified welders, and welding procedures. Some are also required to have a designated welding engineer. Welders' tickets will not be valid if the individual is not welding for a certified company. To determine if a company is certified by the CWB, phone the CWB regional office in Winnipeg at (204) 786-4068 or visit their website at www.cwbgroup.com.

Q: Does a double slider window meet the code requirements for bedroom emergency egress windows as described in the Building Standards advisory A-15? Builders state that they are having difficulty meeting the minimum area requirements for a window from a basement bedroom using a single slider, and are concerned that the egress area available from in-swinging awning windows is reduced when curtain rods, drapes or window blinds block the path of swing. To obtain the minimum unobstructed opening in a double slider, both sashes must be removed from the frame by lifting the sash above the bottom rail and pulling it in. The proposed double sliders will be labeled with “EXIT by lift up and pull in” together with arrows to show the direction of lift, similar to emergency exits in public transit vehicles.

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Objective-Based Codes Update

The provinces, territories, and the Canadian Commission on Building and Fire Codes (CCBFC) are continuing to work together toward completion and adoption of objective-based building, fire and plumbing codes. Comments and suggestions submitted during consultation on the code objectives have been analysed, and the CCBFC has agreed on a final version that will be considered by the provinces and territories this summer.

Pending agreement by the provincial and territorial deputy ministers responsible for the codes, a coordinated national/provincial/territorial public review period is scheduled to occur between October 15, 2002 and January 15, 2003. The subjects of this review will be:

- the format of the new “objectives” portions of the codes and the restructured existing technical requirements, and
- proposed technical changes to the 1995 codes.

Watch for further announcements about local sessions where these subjects will be discussed.

The provinces and territories are also working with the Canadian Codes Centre to develop training that will acquaint users with application and enforcement of the objective-based codes. It is expected that this training will be available in 2003 and 2004.

For more information about the code development process and the public review, please visit the website of the Canadian Commission on Building and Fire Codes at www.nrc.ca/ccbfc or contact the Canadian Codes Centre at codes@nrc.ca. §

Building Official Licence Renewals

Later this year, five years will have passed since the first Building Official licence was issued by Building Standards. Since each licence expires five years from when the application was approved—unless it is renewed—notices will be mailed to licensees before their expiry date.

Please note that this expiry is independent from the “paid to” date shown on a licence.

The notice will remind licensees to apply for renewal of their licence if they want to have it renewed. To qualify for renewal, a person must hold a valid licence, and provide information about training and development activities that the licensee has participated in or provide peer and client references relating to services performed during the past five years. Evidence of training and development activities and references must be acceptable to the chief building official. Some examples of suitable training and development activities include:

- attending SBOA conferences, manufacturer or supplier product information sessions, etc.,
- completing courses on specific topics, such as sprinklers, preserved wood foundations, solid-fuel burning appliances, etc.,
- being a member of a code development committee, or
- participating in related activities.

Licensees with questions about renewing their licence should review clause 10(7) of *The Building and Accessibility Standards Administration Regulations*, or call Building Standards. §

(continued from page 9 — Spring 2002 SBOA Conference — Panel Session Questions)

A: We did not hear suggestions about using double sliders while we were preparing our advisory. The difficulties and concerns of builders need to be addressed, particularly because we might see a proposal for extending the egress window requirements to all basements, with or without bedrooms, in the proposed change package this fall. However, we are unconvinced that the double slider provides the solution. Even with labelling on the window, lifting two sashes out of the frame could be

considered as requiring special knowledge. In an emergency, success in completing this special operation that is different from normally opening the window, and repeating it to obtain a large enough opening to pass through, could mean the difference between getting out and not getting out. Since we did not have time to raise this question at the panel session, if anyone has comments on this suggestion, please let us know. §

Application of Building Standards to Commercial Hog Barns

Saskatchewan adopts and slightly amends the National Building Code of Canada 1995 and, by reference, the National Farm Building Code of Canada 1995 as the provincial building and accessibility standards. These standards are adopted in regulations under *The Uniform Building and Accessibility Standards Act* (the UBAS Act). The standards include requirements for fire protection, fire safety, health safety, structural adequacy, and barrier-free accessibility in construction of buildings.

Building owners are required to ensure that buildings in Saskatchewan are designed, constructed, erected, placed, altered, repaired, renovated, demolished, relocated, removed, used or occupied in accordance with the building standards.

The building standards do not apply to a farm building, defined as a building associated with a farming operation and includes a residence consisting of not more than two dwelling units, but does not include buildings association with commercial operations, multiple-occupancy residences or assembly buildings.

Unfortunately, it is widely believed that Saskatchewan's building standards do not apply to **any** farm buildings. But the definition of farm buildings makes it clear that commercial operations, multiple-occupancy residences or assembly buildings, disregarding whether they are located on agricultural property, are not exempt. And if a rural municipality passes a resolution stating that the building standards should apply to all buildings in the rural municipality, regulations may confirm that resolution. This enables application of the standards to farm buildings which would otherwise be exempt.

It appears that when the UBAS Act was written in the late 1970s and early 1980s, the writers intended to exempt buildings on what are traditionally known in Saskatchewan as "family farms," unless the appropriate rural municipality chose to regulate them. Family farms were usually owned and operated by the farmer who lived on the property, and typically didn't employ full-time workers, involve corporate business interests and investments, or have large occupied buildings on the property. Family farms were often the place where the farmer's ancestors had homesteaded, and were usually handed down from parent to child, rather than sold to outsiders. It appears that the writers of the UBAS Act did not anticipate the rapid changes that Saskatchewan's agricultural industry has undergone or

the associated changes to the types of agricultural buildings that are being constructed.

There is little doubt that the commercial hog barns (and many other buildings) being built on agricultural property in Saskatchewan these days are "commercial operations" and are not intended to be included in the UBAS Act definition of "farm buildings." However, until the UBAS Act is amended to clarify the exemption, building officials, local authorities, building owners, designers, and builders must use reason and common sense to apply the Act as was intended. Some characteristics that should be examined to determine whether a building meets the definition of farm building include:

- size of the building (i.e., roof spans less than 12.2 m),
- value of construction,
- number of full-time employees,
- nonresident and/or corporate owners,
- intensive livestock operations,
- public invited or permitted to enter, and
- non-agricultural operation or use.

When any or all of these characteristics lead to the conclusion that a building is not a traditional barn or storage building on a "family farm," the building standards should be applied. (For more information see Advisory A-3 Farm Buildings.)

The UBAS Act assigns responsibility for administration and enforcement of the building standards to local authorities—primarily urban, rural and northern municipalities. Each of the over 800 local authorities independently decides what enforcement actions to take, with rather inconsistent results. Despite this, the owner's obligation under the UBAS Act to ensure compliance with the standards remains. When a commercial hog barn is designed, constructed, erected, placed, altered, repaired, renovated, demolished, relocated, removed, used or occupied, the owner is required to ensure that these actions are taken in accordance with the building standards. A prudent owner will also check with the local authority where the building is going to be located, before design or construction, to find out how enforcement is done. Of course, other local requirements (i.e., zoning and development permits), and other provincial requirements (i.e., intensive livestock operations, fire code, plumbing code, environment, and occupational health and safety) might apply. §

Pressure Treated Wood Preservative to be Phased Out

On February 12, 2002, the United States Environmental Protection Agency (EPA) announced a voluntary decision by industry to move consumer use of treated lumber products away from a variety of pressure-treated wood that contains arsenic by December 31, 2003, in favour of new alternative wood preservatives. This move affects all residential uses of wood treated with chromated copper arsenate (known as CCA), including wood used in play-structures, decks, picnic tables, landscaping timbers, residential fencing, patios, and walkways/boardwalks.

EPA has **not** concluded that CCA-treated wood poses unreasonable risks to the public for existing CCA-treated wood used around or near homes. EPA does **not** believe there is any reason to remove or replace CCA-treated structures, including decks or playground equipment. EPA is **not** recommending that existing structures or surrounding soils be removed or replaced.

Nonetheless, the wood preservative industry is taking this voluntary step in response to consumer concerns about health risks from contact with CCA-treated wood and about environmental risks from arsenic leaching into the ground and groundwater. People who wish to reduce their potential exposure to CCA, should consider the following advice:

- Treated wood should never be burned in open fires, stoves, fireplaces, or residential boilers.
- Always wash hands thoroughly after contact with any wood, especially prior to eating and drinking.
- Food or drinking water should not come into direct contact with any treated wood.
- Apply a coating product to treated wood. Some studies suggest that applying certain penetrating coatings (e.g., oil-based semi-transparent stains) on a regular basis may reduce the migration of wood preservative chemicals from CCA-treated wood.
- Install physical barriers, usually made from plastic or vinyl based materials, which are made to fit over standard-size decking and structural members.
- When doing new construction or repairs, consider using wood treated with alternative preservatives or non-wood products, such as recycled plastic and rubber.
- Dispose of treated wood by ordinary trash collection.
- Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing, sanding, and machining treated wood, wear a dust mask. Whenever possible, perform these operations outdoors to avoid indoor accumulations or airborne sawdust from treated wood.
- When power-sawing and machining treated wood, wear goggles to protect eyes from flying particles.
- Wear gloves when working with treated wood. Before eating, drinking, toileting, and using tobacco products, wash exposed areas thoroughly.
- Because preservatives or sawdust may accumulate on clothes, wash clothes before reuse. Wash work clothes separately from other household clothing.
- Use a home test kit to check arsenic levels in pressure-treated decks, play sets and other structures where CCA-treated wood is exposed.

It is unclear whether this phase-out of CCA-treated wood in residential applications will apply to uses such as permanent wood foundations, where there is a low possibility of human contact after construction is complete.

In Canada, Environment Canada and Health Canada evaluate and assess the potential effects on the environment and on human health resulting from pesticidal uses of arsenic, such as the CCA wood preservative. It has been reported that Health Canada is expected to finish a re-evaluation of its assessment of pressure-treated wood this spring. There has been no indication about what effect this move in the United States will have in Canada. §

Seminar on Sound Isolation and Fire Containment

Since 1965 the National Research Council's Institute for Research in Construction (IRC) has given seminars in cities across Canada, covering topics related to all aspects of building and infrastructure performance. Starting this fall, IRC will present a new seminar in the Building Science Insight series, called "Sound Isolation and Fire Containment—Details that Work." The seminar will focus on fire resistance and noise reduction provided by walls and floors between dwellings in multi-unit dwellings.

Saskatoon will be the location of the Saskatchewan seminar, scheduled for November 8, 2002. The fee for the seminar is \$350 plus GST.

For more information about the seminar and registration information visit www.nrc.ca/irc/bsi/2002/index.html. §

HRAI Sessions for Building Officials

The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) is now offering 1-day information sessions for building officials on the following topics:

- Residential Heat Loss and Heat Gain Calculations.
- Residential Air System Design.
- Commissioning of Residential Mechanical Systems.
- Residential Mechanical Ventilation Systems.
- Combo Heating Systems.

Each 1-day seminar represents a condensed version of the corresponding 2 or 3-day certification training program currently being offered by HRAI to contractors throughout Canada.

Although Building Standards does not provide training, we could arrange for HRAI to deliver these seminars in Saskatchewan, if there is sufficient interest. We will find out more information about costs and availability of the seminars from HRAI.

Please call Shelly at (306) 787-4113 if you would be interested in attending. Tell her which seminar(s) you would like to attend and suggest a preferred location and month for the seminar. Or if you would prefer that a seminar be held the day before a Saskatchewan Building Officials Association (SBOA) conference, we will coordinate this with the SBOA executive. §

Certification of Fire Stop Devices

At the recent SBOA conference there was discussion about the meaning of certification marks on fire stop devices, which we'd like to clarify.

Certification is the confirmation, by an independent organization, that a product or service meets a requirement. In Canada, certification bodies are accredited by the Standards Council of Canada (SCC) to provide certification services in a specified scope of accreditation. This SCC accreditation assures building officials that certification bodies have met rigorous criteria and will follow prescribed procedures in issuing and monitoring certifications. Appendix note A-2 in the National Building Code of Canada (NBC) 1995 gives a description of various types of conformity assessment methods that building officials can use, including certification. The SCC website www.scc.ca contains a list of accredited certification bodies, and their contact information and scope of accreditation. Copies of the accreditation criteria and procedural requirements used by SCC are also available on their website.

Certification bodies are required to register a certification mark with the SCC as part of their accreditation. Some common certification marks are:



The mark is used to signify that a product is in full conformity with specified requirements. These specified requirements are the appropriate Canadian standards. For example, ratings of fire stop devices regulated by the NBC 1995 must be determined by subjecting them to the fire test method in CAN4-S115-95 "Fire Tests for Fire Stop Systems." To place a registered certification mark on a fire stop device for use in Canada, no matter where the testing is conducted or where the certification body is located, the rating of fire stop device must be tested in accordance with the Canadian standard.

Building officials should note that uses of fire stop devices in combustible drain, waste and vent piping

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will require testing in addition to the certification, to meet the NBC 1995 requirement that the testing be conducted subject to a 50 Pa pressure differential (see Clauses 3.1.9.4.(4) and 9.10.9.7.(3)).

Certification bodies typically provide a listing of certified products, which provide additional information about the certified products. Listings for fire stop devices should include the note that the device is tested using the fire test method in the ULC standard CAN4-S115-95 "Fire Tests for Fire Stop Systems." The listing information will also state if the device has been tested under a pressure differential.

Printed directories of listings are often available to building officials, but the most up-to-date listings are usually found on the certification bodies' websites. §

Archive of the
Building Officials Newsletter

The index of the *Building Officials Newsletter* and all the issues that have been published since the National Building Code of Canada 1995 came into force in Saskatchewan have now been posted on our website. Go to our publications page at www.municipal.gov.sk.ca/safety/buildingstndrd.shtml to access the archive and our other publications.

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For further information on items or for additional copies, please contact:

**Building Standards
Saskatchewan Corrections
and Public Safety
310 – 1855 Victoria Avenue
Regina SK S4P 3V7
General Inquiries (306) 787-4113
Fax (306) 787-9273
[www.municipal.gov.sk.ca/safety/
buildstandards.shtml](http://www.municipal.gov.sk.ca/safety/buildstandards.shtml)**

Margaret Kuzyk, P.Eng., Chief Building Official
(306) 787-4517 mkuzyk@mah.gov.sk.ca

James Weldon, B.Sc., Assistant Chief Building Official
(306) 787-4519 jweldon@mah.gov.sk.ca

Shelly Toniello, Administrative Coordinator
(306) 787-3642 stoniello@mah.gov.sk.ca

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