



Exit Signs in Assembly Occupancies

Building regulations date back to the beginning of recorded history. The Code of Hammurabi (approximately 2200 BC) included simple but effective building code provisions, such as “If a builder build[s] a house for some one, and does not construct it properly, and the house which he built fall[s] in and kill[s] its owner, then that builder shall be put to death.” Since then, due to building failures, conflagrations, and loss of lives, building codes have evolved into a comprehensive set of requirements which define minimum safety standards for the built environment. Yet, despite continued improvements in building codes and enforcement, disasters occur.

Recent tragedies in night clubs in Chicago and Rhode Island have prompted numerous organizations to undertake reviews of safety issues that affected these incidents. Many of the issues under examination relate to the operation of these buildings, such as unusable exit doors, unapproved interior alterations, and use of unsuitable pyrotechnics. Suggestions have been made that operators should be required to complete a daily exit check, and have someone trained as a crowd manager on duty at all times in buildings where large numbers of people gather for social events. It remains to be determined whether building and fire codes, in the cases of Rhode Island and Chicago, were adopted, applied and enforced adequately. If it is concluded that these buildings should have been subject to more stringent construction requirements, building codes could be affected as a result of these tragedies.

Fortunately, in Canada we have relatively consistent use of the National Building Code of Canada (NBC). The NBC 1995 requires that exits be clearly visible or their locations clearly indicated. In buildings over two storeys in height or with an occupant load of more than 150, exit signs are required over or adjacent to exit doors. Where necessary to indicate the direction of exit travel, exit direction signs are required. Exit signs are required to be illuminated while the building is occupied. The NBC 1995 accepts use of externally illuminated or internally illuminated signs, and specifies acceptable colours, lettering sizes and power sources. Although the NBC 1995 does not specifically accept alternate colours or power sources that are available in new exit signs, building officials may accept these products based on equivalence as described in Section 2.5. of the NBC 1995. For example, photoluminescent signs have been accepted for many years as externally illuminated signs. To enable them to be considered as internally illuminated, ULC/ORD-924-02 “Photoluminescent and Self-Luminous Exit Signs” was developed and released in October 2002. This document specifies lettering sizes, but includes visibility performance requirements to allow for use of alternate colours and power sources. Products that are tested and found to be in compliance with this document can be accepted as internally illuminated exit signs as an alternate to the NBC 1995 requirements. §

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Nominations for SBAS Appeal Board Sought

The Saskatchewan Building and Accessibility Standards (SBAS) Appeal Board is comprised of up to eight people appointed by the Lieutenant Governor in Council, according to *The Uniform Building and Accessibility Standards Act* (the UBAS Act).

The role of the Board is to:

- hear and determine owner's appeals from building official's orders or from the accessibility standards,
- advise the minister on matters concerning administration of the UBAS Act and regulations, and
- perform any other duties the minister may direct.

The terms of currently appointed members of the board expire late this year. The Minister of Corrections and Public Safety has asked the associations and organizations listed below to nominate people who would be willing to serve a term on the board. The appointees must be residents of Saskatchewan, and should have a working knowledge of the UBAS Act and regulations, and of building construction; be a good communicator; be fair and impartial; and have the ability to assess evidence based on logic and human experience.

If you are a member of any of the following groups and are interested in being nominated by one of these groups, please contact them. Each group is encouraged to submit the names of two or three nominees. If you are a member of a group that you believe should be included in the following list, please contact Building Standards at the addresses or numbers shown on the back page of this newsletter.

Association of Professional Engineers and Geoscientists of Saskatchewan	New North – Saskatchewan Association of Northern Communities	Saskatchewan Construction Association
Building Owners and Managers Association	Saskatchewan Applied Science Technologists and Technicians*	Saskatchewan Home Builders' Association*
Canadian National Institute for the Blind	Saskatchewan Association of Architects*	Saskatchewan Human Rights Commission
Canadian Paraplegic Association	Saskatchewan Association of Fire Chiefs	Saskatchewan Property Management Corporation*
Construction Specifications Canada (Regina and Saskatoon Chapters)	Saskatchewan Association of Rural Municipalities	Saskatchewan Urban Municipalities Association*
Council of Educational Facility Planners	Saskatchewan Building Officials Association	Saskatchewan Voice of People with Disabilities*
Interior Designers Association of Saskatchewan		(* nominee appointed and serving on current SBAS Appeal Board)



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.

“A good listener tries to understand thoroughly what the other person is saying. In the end he may disagree sharply, but before he disagrees, he wants to know exactly what it is he is disagreeing with.” — Kenneth A. Wells

SaskPower Codes of Practice for Hydronic Heating Systems

Gord Williams, P.Eng., Chief Gas Inspector for the province has issued an addendum to their Codes of Practice that comes into effect on September 1, 2003. The gas inspectors have found inadequate system designs and operating practices that have caused premature failures of, and other problems for, gas-fired boilers and hot water heaters used in hydronic heating systems. In some cases, domestic hot water has been drawn directly from a boiler, resulting in extremely high water temperatures at fixtures. Although "hot water" heating systems are hardly new, there has been a resurgence in their popularity for radiant under floor heating in higher-cost housing, residential garages and farms. Combining this resurgence with today's higher efficiency appliances has increased the need for attention from designers, installers and regulators.

Regulation of hydronic heating systems may require participation of several regulators. Gas regulations are involved when gas-fired boilers or hot water heaters are used to heat the circulating water. Boiler regulations are involved in large boiler installations, but not in residential installations up to and including 400,000 btu/hr or residential installations in buildings with one, two or three dwelling units. Plumbing regulations are involved when combination heating and domestic service water systems are used. Building officials are always involved because the National Building Code of Canada (NBC) 1995 requires heating systems in buildings to be designed, constructed and installed in conformance with good engineering practice. The Codes of Practice addendums for hydronic heating systems were developed in conjunction with building officials, boiler inspectors, plumbing inspectors, and with plumbing and heating contractors. Copies of the Codes of Practice addendums are posted on the Mechanical Contractors Association of Saskatchewan website at <http://www.mca-sask.com/issues.htm>.

The requirements were developed to supplement CSA B149.1 "Natural Gas and Propane Installation Code." Minimum installation requirements (such as compliance with CSA B214 "Installation Code for Hydronic Heating Systems") and recommended guidelines (such as design completed by a qualified designer) are included. Notwithstanding the Codes of Practice, building officials retain the responsibility to enforce design, construction and installation of hydronic heating systems that are not regulated by other regulators, in conformance with good engineering practice. CSA B214 is considered to meet the standards of good engineering practice, and has been proposed as a direct reference in the next edition of the NBC.

A safe hydronic heating system must be designed by a qualified designer, installed in conformance with good engineering practice such as described in CSA B214, and operated by a person who knows the equipment. Building officials need to work closely with regulators who deal with non-building-code aspects of hydronic heating systems (as well as regulators who deal with other non-building-code building features of buildings) to help safeguard people in Saskatchewan. §

Chimney Enclosures

Most factory-built vents and chimneys are certified for installation inside buildings, not outdoors. Gas inspectors routinely require insulated enclosures around the gas appliance chimneys because most of them (usually B vents) are not certified for outdoor installation except for the top portion that is above the roof. Clause 7.17.1 of CSA B149.1 "Natural Gas and Propane Installation Code" says that even those vents that are certified for outdoor installation must be "adequately insulated." The gas inspectors would typically look for an insulated enclosure in these instances, too, likely because of our climatic conditions.

The main problems identified are that the enclosure is not usually built as part of the building envelope, so the vapour and air barriers are not continuous and there is no source of heat in the enclosure (other than that coming from the vent). This can cause problems for operation and durability of the vent, and can cause premature deterioration of the chimney enclosure and the wall between the enclosure and the rest of the building.

It is essential that when a chimney enclosure is built, either as part of the original construction or as part of a renovation or addition later in the life of the building, the builder and building official pay close attention to the location and continuity of the vapour and air barriers in the enclosure wall.

Before issuing a permit for this type of construction, be sure to identify these potential problems and ask for evidence that shows how they will be avoided. §

You Wanted to Know...

Q: Is there an expiry date or a time limit for building permits other than what a municipality sets out in their building bylaw?

*A: The Uniform Building and Accessibility Standards Act (the UBAS Act) and regulations do not directly address expiry of permits. We recommend that expiry dates for permits be incorporated into the local authority's building bylaw, as shown in the sample building bylaw in our Building Bylaw Handbook, posted at <http://www.cps.gov.sk.ca/Safety/building/pdfs/AppASampleBylaw.pdf>. However, Article 1.1.1.1. of the National Building Code of Canada (NBC) 1995 references *The Administrative Requirements for Use with the National Building Code 1985* (the Admin Reqts), which includes two default provisions for expiries. When provisions in the Admin Reqts are addressed by the UBAS Act or regulations or building bylaw provisions, these enactments take precedence over the Admin Reqts. If a building bylaw does not address expiry of permits, then you can rely on the Admin Reqts, which state:*

3.2.3. When an application for a permit has not been completed in conformance with the requirements of the authority having jurisdiction within 6 months after the date of filing, the application may be deemed to have been abandoned. (See Appendix.)

3.2.4.(1) A permit shall expire and the right of an owner under the permit shall terminate if

(a) the work authorized by the permit is not commenced within 6 months from the date of issue of the permit and actively carried out thereafter, or

(b) work is suspended for a period of 6 months.

Call us at Building Standards if you'd like a photocopy of the Admin Reqts.

Q: Which types of vapour barrier are acceptable for use under concrete basement slabs?

A: Let's assume that you are only concerned with vapour barriers in Subsection 9.25.4. of the NBC 1995. Two standards will apply to membrane vapour barriers: CAN/CGSB-51.33M "Vapour Barrier

Sheet, Excluding Polyethylene, for Use in Building Construction" and CAN/CGSB-51.34M "Vapour Barrier, Polyethylene Sheet for Use in Building Construction." The scope of CAN/CGSB-51.33M says:

1.1 This standard covers the performance requirements of two types of sheet materials, other than polyethylene, suitable for use in controlling the movement of water vapour in building construction.

1.2 Material to this standard is primarily intended for use in above-grade building construction and on the interior of below-grade building construction. This standard is not intended to apply to vapour barrier materials for use under concrete slabs or as ground cover in crawl spaces.

Therefore, the vapour barrier under a floor-on-ground must comply with CAN/CGSB-51.34M, or be demonstrated to be equivalent to the performance of polyethylene sheet that meets this standard and be suitable for this use. A look at Articles 9.13.4.2. and 9.13.8.1. will show that the polyethylene sheet will also serve as the dampproofing and the soil gas barrier for the floor-on-ground.

Q: How do the Saskatchewan Human Rights Commission (SHRC) Physical Accessibility Standards Guidelines fit into the interpretation and enforcement process for building officials? Does this document override the NBC or the UBAS Act and regulations?

A: The SHRC guidelines are simply that, guidelines. They are not legally adopted. Municipalities and building officials have no obligation to enforce them. We understand that the SHRC sets out these guidelines primarily to guide their investigators when a complaint of discrimination based on physical accessibility is being investigated. Many designers have become used to following the guidelines when designing buildings, which is generally not a problem because the guidelines are the same or exceed the NBC 1995 in most cases. Some time ago, we encouraged SHRC staff to discontinue the guidelines in favour of the NBC. Then we tried to help align the guidelines and the NBC, but over the years more discontinuities have been introduced. See the article

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on page 1 of the April 2001 *Building Officials Newsletter* at <http://www.cps.gov.sk.ca/Safety/building/pdfs/bonApr01.pdf>.

Although the guidelines are not legally adopted, SHRC legislation supersedes all other Saskatchewan legislation, including the UBAS Act. Thus, when someone applies for a building permit it is good practice for building officials to alert them to the possibility that compliance with the UBAS Act and regulations does not prevent a complaint under the SHRC legislation. This is particularly important in the case of existing buildings that are being renovated, where the UBAS Act and regulations do not require upgrading of the accessibility of a building but a complaint to the SHRC could end up requiring the owner to provide barrier-free access anyway.

Q: Could you list the nomenclature for the UBAS Act and regulations—could I get a list and breakdown of Part, Section, Subsection, Article, etc. ...with the number references?

A: In enactments there are parts, sections, subsections, clauses, subclauses, and paragraphs. The Table of Contents will show you the Parts and Sections. For more information, check out *The Interpretation Act*, posted on the Queen's Printers website at <http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/I11-2.pdf>.

Q: I am curious to learn what, under the UBAS Act, 7(1)(3), the small print noted as "1983-84, c.U-1.2, s.7;1986-87-88, c.60,s.4" means?

This tells you the original legislative session (1983-84), the chapter number for the act (c.U-1.2), and the section number for this provision (s.7), and then the session when this was amended (1986-87-88), the number of the amendment act (c.60), and the section number in the amendment act (s.4).

Q: The note at the bottom of the cover pages of the UBAS Act and Regulations says "This consolidation is not official. Amendments have been..." This concerns me as these office consolidations are what I am using to enforce the Act and regulations. Is this practice recommended or would it be wise for me to obtain, and use as my reference, the original statutes and regulations?

The cautionary note is intended to cover the situation where the consolidation does not quite match the original text. In the case of the UBAS Act and regulations, Building Standards has checked out the consolidations and believe that the original instruments are incorporated correctly in the consolidation. We use the consolidation of the UBAS Act and regulations in Building Standards, and recommend that you do, too. Likely the only time someone would go back to the original text is if the lawyers are debating the enactment of a particular provision. However, if you still have concerns, you should ask your solicitors for their advice.

Q: I need some information concerning the scope of application of the NBC, the UBAS Act and regulations pertaining to building renovations. I understand that there is a commentary or guide in print to aid in making proper evaluations in the grey areas surrounding proposed building renovation projects. Where would I be able to obtain such reference material?

A: Application of the building code to existing buildings is described in A-1.1.2.1. of the NBC 1995, in Commentary B of the *User's Guide — NBC 1995 Fire Protection, Occupant Safety and Accessibility (Part 3)*, and in the *User's Guide — NBC 1995 Application of Part 9 to Existing Buildings*. The User's Guides can be purchased from NRC at <http://www.nrc.ca/irc/publications/order.html>.

Q. Can a building official's order to stop work on a construction project be appealed?

A. Yes, all orders issued under authority of Section 17 of the UBAS Act can be appealed to the Saskatchewan Building and Accessibility Standards Appeal Board. Clause 17(1)(e) authorizes stop work orders. The conditions prescribed in the order must be related to technical or administrative requirements set out in the UBAS Act and regulations or the building bylaw. Every time an order is issued, it must give notice of the right to appeal. A sample order is included in Appendix C of the Building Bylaw Handbook, posted at <http://www.cps.gov.sk.ca/Safety/building/pdfs/AppCSampleOrder.pdf>. The Appeal Board can confirm, revoke or vary the order, and it will be turned back to the local authority to enforce. §

SPAG News

by Tim Macaulay,
Saskatchewan Health

There is no current news to report from the Saskatchewan Plumbing Advisory Group (SPAG). Those who have questions regarding SPAG should contact Tim Macaulay, Saskatchewan Health at (306) 787-7128, fax (306) 787-3237, or e-mail tmacaulay@health.gov.sk.ca.

Intertek ETL SEMKO Marks

ETL SEMKO is one of the Intertek Group of companies. The Warnock Hersey network of laboratories is part of ETL SEMKO. As of August 1, 2003, these testing laboratories will be using updated certification marks, authorized by Intertek.



A product bearing the mark with a “us” identifier at the 4 o’clock position has been tested and deemed compliant to U.S. product safety standards only. A mark with a “c” identifier at the 8 o’clock position means the product bearing it complies with Canadian product safety standards only. And a mark with both “us” and “c” identifiers at the 4 o’clock and 8 o’clock positions respectively, signifies that the product bearing the mark complies with both U.S. and Canadian product safety standards. §

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Comments, suggestions and constructive criticism about this newsletter are welcomed.

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 or
buildingstandards@cps.gov.sk.ca
Fax (306) 787-9273
www.cps.gov.sk.ca/safety/building

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

Richard Nicolas, Assistant Chief Building Official
(306) 787-4519 rnicholas@cps.gov.sk.ca

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

HAVE THINGS CHANGED? Please send us your corrections.
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