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## **A Brief History of the National Buildings Code of Canada**

By John Archer  
Secretary, Canadian Commission on Building and Fire Codes

The Constitution Act (and the British North America Act of 1867 before it) gives sole jurisdiction in the regulation of the design and construction of buildings to the provincial and territorial governments – they have the power and the responsibility to develop and implement building codes. So, have you every wondered why the National Research Council, a federal agency, is involved in building codes?

After the provinces received their building regulatory powers under the BNA Act, they essentially let them lie fallow for the next one hundred years. The wealthy citizens of the new provinces – those who could afford to have buildings designed and built – were not inclined to encourage government to put limitations on what they could do with their property.

As time went by, the cities in the young provinces – Halifax, Québec, Montréal, Toronto – began to grow. And with growth came problems. Fire razed every major Canadian city before 1900. Waves of typhoid fever and smallpox ravaged the urban populations.

The propertied classes in these cities came to recognize that fire and disease did not distinguish between rich and poor. Private insurance companies began to refuse coverage unless “fire resistant” construction was used. Sanitation engineers undertook a mission to reform urban water and sewage systems. By around 1900, the municipalities in the largest provinces won power to write and enforce building codes. As the decades passed, more and more of them took up this responsibility.

However, a consequence was that by the 1930s, building regulation in Canada was a hodge-podge of locally created building bylaws. Some were progressive, but many were based on bad science. Some were designed to support local business enterprise; others were intended to exclude competition from outsiders. All of them were different in some way. The situation was chaotic. Architects, engineers, material manufacturers and contractors complained. Economists denounced the negative impact on the economy at a time when the Great Depression was raging.

The “watershed” in the establishment of a National Building Code was the social unrest experienced in Canada during the Great Depression. Homelessness was a significant issue. The federal government saw this crisis as a threat to national stability, and established the first federal housing program in 1937. It found, however, that the lack of consistent (or often any) rules for the construction of the houses it was supporting meant that significant quality failures occurred. Accordingly, in the same year, with the encouragement of municipal officials, planners, engineers and architects, the federal government asked the National Research Council (NRC) to develop a code that it could use in administering its programs, and that could also be used by municipalities. In

response, NRC brought together leading engineers, architects and building scientists from across Canada to undertake the task.

The first National Building Code was published in 1941, in time to prove its worth in the bulk of Canada's wartime building program. The new code set out the state of the art building science and engineering knowledge, and received considerable international attention during and after the war. It proved its worth in the design and construction of a great variety of building types across the land.

The success of the National Building Code was noted by the federal government, and with the encouragement of General McNaughton, Commander-in-Chief of the Canadian Armed Forces, NRC was persuaded to accept the task of maintaining and updating the new regulatory instrument. General McNaughton was actively involved in planning the post-war reconstruction programs in Europe and had observed that those countries that had the best chance of recovering from the destruction were those that had a strong construction industry and an effective building code. To support the work on the National Building Code, NRC agreed to create a new research group, the Division of Building Research.

Recognizing the national importance of the research that would go into the development of the National Building Code, NRC created the Associate Committee on the National Building Code (ACNBC) to provide direction. The committee was given access to leading construction professionals, industry leaders and university staff from across Canada.

One of the Associate Committee's early tasks was to support the Central Mortgage and Housing Corporation (CMHC) in its work to provide housing for Canadians. Housing construction was very slow during the Great Depression and except for the Wartime Housing programs of the federal government, it stopped almost completely during the Second World War. The Associate Committee prepared and published a "Code for Dwelling Construction" in 1950 that could be used for house construction. This code later became a component of Part 9 of the National Building Code.

Because the provinces and territories had yet to take up their powers and responsibilities in regulation, a second challenge facing the Associate Committee was the needs of small municipalities. The 1941 National Building Code presumed professional training but most small municipalities did not employ professional staff to administer their building bylaws. To meet their needs, the Associate Committee prepared a short form of the National Building Code in 1951, "A Building Code for Small Municipalities." This code provided model bylaws and mainly prescriptive requirements for the range of small buildings typical of rural and small communities. It did not require professional knowledge. This second code eventually was incorporated into Part 9 of the National Building Code.

The third challenge was, of course, the matter of updating the 1941 National Building Code itself. After much work, including research undertaken at the Division of Building

Research and consultation with groups from across Canada, new editions of the National Building Code were published in 1953 and 1960, after which updated editions began to appear regularly in approximately five-year intervals after that.

By the early 1960s, the Associate Committee on the National Building Code was gratified by the broad acceptance and adoption of the code by municipalities all across Canada. During the same era, however, the larger provinces became active in building regulation. Typically they began by adopting the National Building Code for province-wide application. As the decades went by, all of the provincial/territorial jurisdictions adopted building codes (usually the National Building Code directly), until today only Prince Edward Island and Newfoundland do not have province-wide building codes.

The entry of the major provinces into building regulation caused a “sea change” for the national model code development process. Increasingly the provinces began to introduce variations or expansions to the content of the National Building Code. By the late 1980s the Associate Committee found that the national model code development process was being ignored and was not receiving the benefits of extensive public review that it once had. Code users had adopted the practice of waiting for the provincial jurisdiction to come forward with its own code variant. A growing lack of code harmony in major markets in Canada was becoming an issue.

In 1991 the first steps of reform were taken. The Associate Committee on the National Building Code was combined with the Associate Committee on the National Fire Code to become the Canadian Commission on Building and Fire Codes. The CCBFC soon embarked on a strategic planning exercise to address issues facing the national code development system, issues with both national and international aspects.

Out of this exercise came several major initiatives that are still in progress – objective-based codes and the coordinated national model code development system. Both initiatives are intended to encourage harmony in the building regulatory regime in Canada and establish a coordinated national/provincial/territorial system that should facilitate the maintenance of that harmony over the long term. The development of the 2005 Objective-Based National Model Codes is being used as a “test drive” of the proposed new codes and new code development system, with full implementation planned for the next code cycle.