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Canada Introduces “Objective-Based” Codes

While Australia and other countries have forged ahead with the introduction of “performance-based” national codes, Canada has taken a more cautious approach. Combined with the implementation of a new model codes development system that more effectively engages the constitutional authorities responsible for building regulation, Canada will introduce its “objective-based” codes in late 2005.

The Canadian Commission on Building and Fire Codes (CCBFC) is the body that provides overall governance to the development of Canada’s national model codes. In a strategic planning process in the early 1990’s, the Commission determined that there was need to reform the national model codes to make them easier to understand, easier to apply to the renewal of the existing building stock, and more accommodating to the introduction of innovative building products and systems. As well, the Commission wanted to move the codes toward a performance basis, while at the same time encouraging the regulatory authorities to adopt the codes with few changes.

This latter goal was particularly important as the Constitution Act gives the responsibility for building regulation to the provinces and territories in Canada (there are some exceptions). Although the national model codes continue to be the base on which the provincial and territorial codes are founded, during the previous two decades a significant number of differences had accumulated. This was creating disharmony at the national level and affecting the productivity of the construction industry.

The strategic plan proposed that the next set of national model codes be formulated as objective-based codes. However, it understood that the effort to create them must have the full cooperation and support of the regulatory authorities. In order to encourage this happening, the Commission established a new coordinated codes development system that gave the provinces and territories the capacity to review and advise at every step of the process.

Why objective-based codes and not performance-based codes? The Commission and the provinces and territories, when initially considering the direction that would be taken to renew the Canadian model codes, were concerned that a rapid move to a performance-based format would be too disruptive to both the Canadian construction industry and the regulatory community. It wanted a more evolutionary approach that would retain the familiar characteristics of the current codes, but open the door to an orderly introduction of performance-based requirements. The key to do this was seen as providing significantly enhanced information on what the codes were intended to achieve. The Commission called this approach “objective-based codes.”

Objective-based codes retain the existing wording and mixture of performance and prescriptive code provisions in the previous code documents, but tie to each provision a “library” of information. Some of that information is at a “high” social policy level, addressing the reasons why Canadian society agrees to regulate the design, construction and operation of buildings. Other information is at a lower, application oriented, level that is meant to give code users specific information in plain language on what is expected for code compliance. Essentially, the result is a code with all of the “whys” spelled out.

All of the “policy” level information has been placed in a new Division A in the model code documents. This information includes Objectives, Sub-objectives and Functional Statements describing what the design and construction of the building must do to achieve the Objectives and Sub-objectives. In a separate document, the more practical information – a plain language explanation of the intent of each code provision, as well as a detailed application statement – is provided as a reference.

The working part of the code is Division B which sets out the “Acceptable Solutions” to the Objectives, Sub-objectives and Functional Statements in Division A. A code user looking at this part of the model code document will see that for each provision the applicable Objective, Sub-objective and Functional Statement is indicated. As well, the links to the intent analysis and the application statement are provided.

The task to develop the objectives, sub-objectives, functional statements, intent analysis and application statements information was not trivial. Using primarily a bottom-up approach, every provision in the codes

was analyzed and refined through staff and committee work, as well as national public consultation. All of this information was aggregated in a large database that eventually led to the Commission being able to declare the four overall objectives of the national code documents. These four Objectives are Health, Safety, Accessibility, and Fire and Structural Protection of Buildings. Each of the Objectives has Sub-objectives that address specific issues. The Objective of Health, for example, has Sub-objectives dealing with indoor conditions, sanitation, noise protection, etc., and in some cases, sub-sub-objectives.

A basic principle adopted by the CCBFC was that the conversion to objective-based codes should not inadvertently expand or contract their scopes, or change (raise or lower) the minimum level of performance required. This meant that the Commission and its technical standing committees had to take a great deal of care in how it worded the definitions of the objectives. The development of the Objective of Fire and Structural Protection of Buildings, is an example. The national model building code contains requirements for fire separations between buildings and certain occupancies to perform much longer than is necessary to achieve complete evacuation of the occupants. At first it was proposed that this was a general objective to protect the building as “property” in the sense of its asset value or the economic benefits of its continued operation to a community. Extensive consultation by the Commission convinced it that this was not an intended role of the national model codes. Rather the concern was the risk of damage to the building itself and the Commission reworded the definition to eliminate any suggestion of such a scope. This also clarified that the code was not concerned with building contents.

One of the outcomes of the bottom-up analysis was that it identified a small number of provisions to which no accepted Objective could be attached. This permitted a “rationalization” process to be undertaken that led to the eventual elimination of these code provisions. For the most part, these renegade provisions dealt with issues of appearance or esthetics, and had entered the code decades ago when the national housing agency was attempting to influence the quality of housing being built in Canada.

It is planned that the 2005 national model codes will be released in late summer (September), with their adoption by the provincial and territorial authorities following soon after, according to their individual administrative procedures. Two task groups operating jointly with the provinces/territories and the Commission are currently completing work to assess the experience of the last several years and refine the operation of the coordinated codes development system and to establish priorities for the next code development cycle. Further information about Canada’s objective-based codes and its model code development system may be found at www.nationalcodes.ca.

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