

ISSUES PAPER
ON THE
NATIONAL BUILDING CODE OF CANADA

A Report Prepared for
Canada Mortgage and Housing Corporation

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**DOCUMENT DE TRAVAIL SUR LE CODE NATIONAL DU BÂTIMENT DU
CANADA**

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EXECUTIVE SUMMARY

Building regulations affect the basic quality of housing for the great majority of Canadians. Indeed, the "building codes" have a fundamentally greater impact than any other legislation. They provide minimum standards for health, safety, structural sufficiency and other public policies, and influence building industry efficiency and housing affordability.

In Canada, national model codes have been developed for over half a century in a form suitable for adoption as regulations by the "Authorities Having Jurisdiction" -- i.e. the Provincial, Territorial or Municipal Governments.

The 1995 editions of the National Building Code, National Fire Code, Canadian Housing Code, Canadian Plumbing Code and Canadian Farm Building Code are all in their final stages of review. So are the texts of two new codes, which are also due to be issued in 1995 -- the National Energy Code for Houses, and the National Energy Code for Buildings. These new national model codes have all been developed following widespread consultation on the part of code-users and other stakeholder groups by the Canadian Commission on Building and Fire Codes, an independent body supported by the National Research Council.

There is a high degree of harmonization of building regulations across Canada. The eight provincial governments which took back responsibility for building regulations from their municipalities have adopted the National Building Code wholly or in very substantial part. So have the territorial governments. Most of the municipalities which have authority over building regulations have also adopted the National Building Code.

This harmonization was formalized in 1990 in a Memorandum of Understanding committing the signatory provinces and territories to adopt the National Building Code as a core document with as few amendments as possible. The goal of uniform building regulations throughout Canada is strongly advocated by the principal associations representing builders, building officials, building materials manufacturers, and consumers.

Much, then, has been achieved and there are other favourable indications conducive to the increased realization of the Memorandum of Understanding on the National Building Code. On the other hand, there has been a tendency in some provinces to expand rather than reduce the number of variations to the National Building Code. Moreover, the future of the national model codes system may be in some jeopardy because of funding factors.

Budget restraints have also very seriously affected the "delivery system" for building regulations. The responsibility for enforcing building regulations has generally been delegated to the municipal governments. The demands have increased but in many cases the resources have been reduced -- e.g. inspection staffs have been downsized and training budgets have been cut. In many areas, especially outside of the major centres, training programs are not readily available.

The expanding scope of the national model codes and the daunting challenge of their revision have made the whole process an issue in itself. Closely linked with this are the questions of affordability and global competitiveness.

Most Housing Ministers are not directly responsible for building regulations. They are, however, obviously concerned with the subject and are in an excellent position to influence government policies on building regulations, particularly as they relate to housing.

This paper attempts to present the principal issues concerning building regulations in Canada today. It concludes with a dozen Recommendations for Consideration by the Ministers responsible for housing, with a view to achieving a stronger nation-wide consensus and making the present building codes system work even more consistently and effectively for their constituents, the general public.

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ISSUES PAPER ON THE NATIONAL BUILDING CODE OF CANADA

1.0 Historical Note

1.1 Origins and Evolution

Under the Constitution Act, the responsibility for building regulation in Canada rests with the provinces and territories. In earlier times this responsibility was usually delegated to the municipalities and some still retain this right in their charter. The multiplicity of municipal building regulations made it very difficult for designers, manufacturers and contractors to conduct their businesses in different centres. Many of the regulations became out-dated and therefore inhibited progress. In addition, municipal building regulations were often inadequate or even non-existent, with resulting dangers to public health and safety.

In 1937, the National Research Council (NRC) was asked to develop a model building code suitable for adoption by municipalities across Canada. The first National Building Code (NBC) was published in 1941 and since has been periodically revised. The 1990 document is the tenth edition. A companion model code, the National Fire Code, was first published in 1963. The other national model codes in the current series prepared and maintained by the Canadian Commission on Building and Fire Codes (CCBFC) and published by NRC are the Canadian Plumbing Code, the Canadian Housing Code and the Canadian Farm Building Code. Measures for Energy Conservation in New Buildings were first published in 1978 and revised in 1983.

Part 9 of the NBC applies to Housing and Small Buildings of up to 600 m² in building area and not more than three storeys in height. (Exceptions are assembly, institutional or high-hazard industrial buildings). There is now also a detailed, illustrated "Commentary" on Part 9, giving the background to the requirements and the general principles on which they are based. The Canadian Housing Code contains the NBC provisions for houses, including duplexes, triplexes, and row housing. Provisions for larger, multi-unit housing projects are contained in other Parts of the NBC.

The 1995 editions of the national model codes are all in their final stages of review, as well as the texts of two new codes -- the National Energy Code for Houses, and the National Energy Code for Buildings. All of these codes have been developed following widespread consultation on the part of code-users and other stakeholder groups.

1.2 Public and Private Sector Support/Promotion

The use of the national model codes was "commended" by the Federation of Canadian Municipalities and by many national bodies representing designers, builders, manufacturers, building officials, fire officials and other key interest groups. Some of these organizations also played an active role in advocating their adoption. Provincial authorities often urged municipalities with inadequate building regulations to up-grade them. The number of municipalities which adopted a version of the national model codes rose steadily but it was a slow and uneven process.

A breakthrough occurred when, commencing in 1973, eight of the provincial governments in turn took back responsibility for building regulations from their municipalities and issued (with some exceptions) codes with province-wide, uniform application. In this regard the model codes were adopted in whole or very substantial part. Policy guidance from the provincial and territorial governments to the developers of the National Building Code has been provided through an advisory committee -- now called the Provincial/Territorial Committee on Building Standards (PTCBS).

This widespread harmonization of regulations has resulted in substantial economies and increased efficiency in both the private and public sectors. With some exceptions, material suppliers no longer have to obtain acceptance for their goods on a municipality-by-municipality or province-by-province basis or be denied economies of scale because of limited markets. Similarly, designers and builders who operate in different locations do not have to keep track of a myriad of variations in building regulations. Building inspectors and other code-users can use the same code training material across the country. Governments do not have to undergo the costly and time-consuming process of developing their own up-to-date sets of regulations.

1.3 The National Model Codes System

The CCBFC is an independent body supported by the National Research Council. Its model codes for the built environment involve the development of minimum requirements. It uses a volunteer, technically-driven consensus process that provides a family of documents dealing with the health and safety of persons, fire protection and structural sufficiency, while responding to other widely-supported and related societal needs. Policy advice is provided by the PTCBS.

The Commission and its technical standing committees have membership designed to make them representative of (1) the key interest groups in the private and public sectors, and (2) the various regions of the country. Members are chosen for their expertise and are appointed as individuals. In all, some 300 members work on about 40 committees. Travel expenses are reimbursed to ensure cross-country participation. The Canadian Codes Centre (CCC) in the NRC Institute for Research in Construction acts as a link between the code committees and NRC research staff.

There is an extensive public review process with respect to proposed code revisions agreed to on a consensus basis by the standing committees. Twice during the 5-year code cycle the proposals are widely circulated for a 3-month public comment period. Feedback is then reviewed by the standing committees, whose meetings are open to interested parties. In addition, Code Change Forums are held in major centres to explain the proposed changes and to solicit comments for technical review.

When new editions of the national model codes are issued they do not come into effect unless adopted by the "authority having jurisdiction". Thereafter, the regulatory bodies can obtain opinions from the CCC as to the intent of code provisions. Similarly, they can obtain evaluations from a sister organization in the NRC Institute for Research in Construction, the Canadian Construction Materials Centre. These evaluations deal with innovative materials and processes not yet covered by standards referenced in the code or for which no third-party certification program is established.

1.4 Memorandum of Understanding

In 1987 the Provincial/Territorial Deputy Ministers Responsible for the Building Industry recommended that the federal, provincial and territorial governments develop a Memorandum of Understanding which committed the Provinces and Territories to adopting the National Building Code as a core document with as few amendments as possible. Such a M.O.U. was signed in 1990 by representatives of seven of the provincial governments and the two territorial governments. (Of the three provinces which did not sign, Quebec has adopted the National Building Code as the minimum set of building regulations to be administered by its municipalities. Newfoundland and Prince Edward Island do not have provincial building codes; their major cities, however, have adopted the National Building Code).

A copy of the M.O.U. is appended.

1.5 Status Report on the National Building Code 1990

The NBC has been adopted by reference by Quebec¹, Saskatchewan, New Brunswick, Nova Scotia, and The Territories. The Ontario, Manitoba, Alberta and British Columbia Building Codes all state that they are based on the National Building Code. All of them except the 1993 edition of the Ontario Building Code designate which of its provisions vary from those in the NBC.

Montreal maintained its own building code until 1993 when it adopted the National Building Code, effective January 1, 1994, Vancouver's Building Code is comprised mainly of the National Building Code, augmented by provisions from the B.C. Building Code and by its own additional building regulations.

The National Building Code also applies to buildings or properties of the Government of Canada.

1.6 Additional Provincial Initiatives

The British Columbia Building Code 1992 contains a number of "unique conditions". Seventy-seven pages of explanatory material are in an Appendix to deal with them, for example, Heritage Building, Licensed Beverage Establishment, Professional Design and Review, Buildings over Storage Garages, Community Care Facilities. Section 3.7 has a special divider page for ready reference to provisions for barrier-free access. Energy conservation requirements were introduced in the B.C. code earlier this year.

The Alberta Building Code 1990 has two extra Parts -- Part 10 Relocatable Industrial Accommodation, and Part 11 Exterior Acoustic Insulation. Part 7 (Plumbing and Health) includes extra requirements for Swimming Pools and a number of industrial establishments. The Alberta code also includes energy conservation provisions.

The Manitoba Building Code 1992 contains a number of provisions to accommodate "Manitoba conditions" and an extra Part -- Part 10 Special Construction Standards (safety protection requirements for private pools on the property of a single family dwelling). The Manitoba code includes thermal insulation requirements.

¹Quebec's Act does not yet cover 1 and 2 storey housing having 7 or fewer dwelling units; most municipalities have adopted the National Building Code 1990 for such buildings.

The Ontario Building Code 1990 and 1993 Interim Amendments have a number of amendments to the 1990 NBC -- e.g. new requirements for energy efficient design of buildings, and full height basement insulation -- plus an extra Part 11 - Renovation. (Part 10 is "Reserved").

Nova Scotia and Newfoundland have enacted legislation on "barrier-free design" in excess of that contained in the NBC 1990.

1.7 Comparison with U.S.A. Codes Scene

There are three regional code-writing Building Officials' organizations in the United States which publish model codes and operate extensive training programs. Representatives of manufacturers and other stakeholder groups take part in the discussions on proposed code revisions but only member building officials may vote. The individual municipalities publish their own building regulations (i.e. there are no State Building Codes). A much greater degree of uniformity in building regulations has been achieved in Canada than within any of the three regions served by the U.S. model codes.

Recently the three U.S. organizations agreed to work on the development of a common format, as a first step towards a uniform code.

1.8 General Summary

Canada is the beneficiary of the development of national model codes for over half a century. The CCBFC organization and system are therefore well-established and are well-regarded domestically and internationally. There is an integral built-in mechanism for consultation with the Provincial and Territorial Governments. Regional and stakeholder representation and balance are assured through the membership matrices of the Commission and Standing Committees and are conducive to a greater acceptance of the end documents. An open and consensus decision-making process is followed in the development and revision of the national model codes. There is a large volunteer cadre with a high level of expertise and a competent CCC staff, with close ties to Canada's leading construction research establishment, a construction materials evaluation service, and counterpart organizations in other countries.

The challenges ahead are to sustain and improve the process so that the needs of the Authorities Having Jurisdiction will be better met and the uniform adoption of the NBC throughout the country is fully achieved.

2.0 Current Developments

2.1 Draft 1995 National Model Codes

The 1995 editions of the National Building Code and other national model codes are in their final stage of development and review. The comments received on the proposed revisions to the existing codes during the 3-month public review period ending in November, 1993 have been considered by the various Standing Committees and their consensus recommendations will be voted on by the CCBFC in September. Publication will ensue in early 1995.

The schedule for the draft National Energy Codes for Houses and for (other) Buildings follows closely behind. The 3-month public review and comment period ends in May 1994 and the responses will be jointly reviewed by the CCBFC Standing Committee on Energy Conservation in Buildings and by provincial and territorial authorities. If significant revisions result, there will be another public review period during November and December, 1994. The final versions of these new codes would then be published in the fall of 1995.

2.2 Principal Housing Revisions

Over 250 proposed changes to Part 9 of the National Building Code were included in the draft document distributed for the recent public review. The Canadian Home Builders' Association sponsored an analysis², with particular attention being given to potential cost increases and savings, and to design and construction implications. (It was noted that even the many editorial changes involved a cost factor related to re-familiarization on the part of code-users).

Among the main decisions made by the Standing Committee on Housing and Small Buildings were those recommending changes in mechanical ventilation to offset the stale air resulting from current air-tight building practice; the elimination of minimum room and space dimensions; increased clearances between stoves and combustible materials; revised span tables; the provision of showers instead of bathtubs; and increased handrail requirements. In addition, the reconciliation between the NBC and the Canadian Standards Association (CSA) Z-240 standard of requirements for mobile homes is progressing. The proposed code revisions for larger buildings, including multi-unit residential projects, sprinkler installation and stair design modifications for

²"Proposed Code Changes -- Your Chance To Be Heard", September, 1993.

wider treads and shorter risers, do not apply to Part 9 housing.

2.3 Draft National Energy Codes

The CCBFC Standing Committee on Energy Conservation in Buildings has been developing the National Energy Code for Houses and the National Energy Code for Buildings since 1990. There was agreement by the PTCBS that the Energy Code be prepared and be referenced as mandatory in the NBCC. The ten provincial Ministries/Departments of Energy have all contributed financially to the related research program.

The Standing Committee has 22 members, representing the main interest groups -- governments, utilities, home builders, building owners, materials and equipment manufacturers, building officials, research etc.

Some provinces have already enacted energy efficiency or energy conservation legislation impacting on building construction. The national model codes are intended to provide expanded coverage/updated requirements to the existing provincial regulations or to provide comprehensive model codes where the "Authority Having Jurisdiction" wishes to introduce energy regulations for buildings.

The dividing line between the two National Energy Codes is the same as in the National Building Code -- i.e. the one for Houses relates to NBC Part 9 residential buildings that are three storeys or less in height and have an area not exceeding 600 m². Similarly, the National Energy Codes for Houses and Buildings are drafted so that they can be adopted in the same manner as the NBC. It is proposed that the 1995 National Building Code will reference the two National Energy Codes, thereby making compliance to them a mandatory requirement.

The National Energy Code for Houses covers the building envelope; lighting; heating, ventilating and air-conditioning systems; service water heating systems; and electric power requirements. The National Energy Code for Buildings contains less detail on air-tightness in the building envelope but much more with respect to lighting, mechanical systems and power consumption. An important feature of the Energy Codes is that they provide both prescriptive and performance paths as options to be followed.

2.4 Principal Housing Implications

Care has been taken to ensure that the NBC 1995, Part 9 and the National Energy Code for Houses do not overlap. For example, the building code does not detail insulation requirements, whereas the energy code does. Again, the building code provides minimum safeguards for the installation of heating equipment, and the energy code deals with the equipment's efficiency. It is the view of National Resources Canada that the vast majority of houses now being built already comply with the provisions of the draft National Energy Code for Houses. These provisions are based on life cycle costs which incorporate regional climatic conditions and energy and building costs. Design flexibility is provided by trade-off options. The consensus approach in which the various stakeholders are represented in the code development process affords an important measure of protection for industry practitioners and home-owners against the introduction of extreme energy codes.

2.5 Planning for the Post-1995 Editions

The CCBFC will not only be making its final decisions on the 1995 editions of the existing national model codes at its September, 1994 meeting, but will also be considering ways and means of achieving further improvements to the system. A Strategic Planning Task Group commenced work in January and is dealing with such topics as the scope of the national model codes, increased provincial/territorial participation, objective-based (performance) codes, support programs, funding, globalization, and the overall code revision process. The latter covers such items as the code cycle, Standing Committee membership and operations, and the possibility of setting prerequisites for proposed code changes, including the provision of a cost/benefit analysis. Consideration is being given to a proposal that additional subject areas which the PTCBS requests be included in model building regulations be prepared as modules, to be adopted where desired.

The Task Group is chaired by a past chairman of the Provincial/Territorial Committee on Building Standards. Its membership is comprised of three building officials (two provincial and one municipal), a housebuilder, a consulting engineer, and the chairman of a major standards writing organization and past Vice-President Codes and Standards of a building products sector organization. Over 80 detailed inputs have been obtained from public officials, associations, and agencies representing a wide range of stakeholder interests. The Task Group's report is due in September.

3.0 Key Issues in Review

Five key issue areas on building codes and regulations emerged during interviews with provincial officials, industry associations and consumer groups.

3.1 Harmonization

Of those interviewed in a survey of the main code interest groups, the principal proponents of harmonization and critics of variations to the National Building Code were the representatives of industry - the builders, contractors and manufacturers whose activities and markets are governed by building regulations.

It was conceded that sometimes the inclusion of special provisions was justified and desirable because of particular circumstances. Some jurisdictions, for example, had added a section to the building code for garden-sited swimming pools. These were not strictly part of a building but were often built in conjunction with a house. If the demand for such regulations grew, there could be one day a model code covering their construction. An add-on such as this did not unduly affect code users.

Also, there were times when a variation was progressive and permitted the use of new technology. Such provisions might well appear in the next edition of the NBC. In general, however, the opinion was expressed that it was preferable to have changes subjected to the open and technical assessment process applied to reach consensus on NBC revisions. Technical changes brought in by a single building code authority could be hasty and have unforeseen implications. The NBC provided for the use of equivalents and there were approved procedures whereby new materials, systems or processes could be evaluated in terms of code compliance.

The main arguments in favour of harmonization are set forth in a policy statement of the Canadian Home Builders' Association (CHBA), which appears in Appendix B. The CHBA arguments include achieving economies of scale, free movement of labour and maintaining a base of common knowledge amongst industry professionals. The converse arguments apply in cases where there are variations to the model code. The Canadian Institute of Steel Construction (CISC) was among those who expressed concern over the duplication of effort and expense involved in the conduct of elaborate independent provincial reviews of proposed building code revisions, and in the publication of separate building codes, rather than making fuller use of the NBC process.

The Canadian Council of Building Officials' Associations, (CCBOA)'s advocacy of harmonized regulations is based mainly on a desire to standardize and thereby simplify the inspection process. Training courses based on the NBC and developed in one part of the country can be used equally well in other areas if there are not significant code variations. Moreover, the mobility of building officials is enhanced through the harmonization of codes.

The "Authorities Having Jurisdiction" which adopt the NBC with very little if any changes obviously subscribe to harmonization. Their rationale is primarily based on both the high technological calibre of the document and the economy of its cooperative development. In times of severe budget restraints, the latter factor is regarded as imperative.

3.2 Expanded Scope

Whether or not the scope and purpose of the National Building Code should be (further) expanded is a hotly debated issue. Historically, the code dealt with minimum standards related to health, safety and structural sufficiency. Barrier-free access requirements have been introduced on the basis that they qualify under both health and safety, and also are beneficial to many members of Canada's aging population. There are protests, however, over the universal application and cost of such provisions. Insulation requirements and building security provisions are both examples of the expanded scope of building code regulations. In addition, there have been strong advocates that energy conservation and efficiency, environmental protection, fire-abatement installations, renovation work, the general commissioning of all mechanical and electrical systems, and periodic code compliance inspections throughout a building's life should also be included in the building code's "minimum" standards.

The provincial governments which have added extra Parts or Sections to their building codes obviously have concluded that their scope should be expanded. In the late 1980's a consortium of Provincial Energy Ministries and Utilities requested, with the concurrence of the PTCBS that the CCBFC develop model Energy Codes for Houses and for other Buildings -- codes that are drafted so that they may readily be adopted as building regulations. The drafts have only recently been released, so comprehensive assessments by code-user groups have yet to be completed. It has been stated that the provisions of the draft National Energy Codes do not substantially exceed current accepted good practice.

Opinions were expressed that if energy efficiency has to be regulated in building design, construction and operations, it is best to have the regulations developed under the NBC consensus system. Concerns over the future adoption of the 1995 National Energy Codes are mainly related to the potential for additional up-front costs during a soft market, the complexity of working out trade-off calculations, the increased administrative burden, and the general belief that society is already over-regulated and that energy decisions should be left to the market.

The CHBA holds that the energy codes should not form part of the NBC, but be published as a separate document and not be subject to an automatic adoption process. An extensive survey of CHBA members last year (i.e. before the draft codes were released) included a question on energy codes. A high percentage of the responses favoured in principle the inclusion of energy conservation measures in building regulations. The reaction of building officials is mixed -- some are opposed to the addition of energy code regulations at a time when they are hard pressed to perform their present duties; others are quite prepared to assume the extra task, providing that training courses and staff resources are available.

The concerns expressed by some of the manufacturers' associations over any future enlargement of the scope of the NBC are based on the fear that it may engender complaints from abroad that the expanded code contravenes GATT and/or NAFTA, and that the inclusion of possibly contentious subjects might well delay or inhibit the adoption of the NBC by the Authorities Having Jurisdiction. These concerns have in turn reinforced the suggestions that the NBC itself should not be expanded in scope and that any codes for additional areas for which there is a substantive demand by code-users should be drafted in the form of separate modules whose adoption is optional.

3.3 Affordability

The Canadian Home Builders' Association, the Canadian Manufactured Housing Institute, and the Joint Construction Council of the Urban Development Institute Ontario and the Metropolitan Toronto Apartment Builders Association all identified the impact of building code changes on construction costs as a significant factor affecting the affordability of new housing. They all strongly advocated that proposed code changes be subject to cost/benefit analysis. The Ontario Ministry of Housing reported that it had received considerable representations on this subject.

Elsewhere no strong complaints on this score were reported although it was agreed that the level of construction costs was of basic importance, particularly during a prolonged recession. Other factors such as lot levies and other municipal imposts were cited as having a similar and perhaps greater adverse effect. Sales prices for housing rather than future operating costs were stated to have the dominant effect on potential buyers. Some Home Builder Associations believe that if new units were required to incorporate costly new elements, it could place them at a competitive disadvantage to resale housing.

It was conceded that some code changes also led to cost decreases. An analytical study had yet to be made on the net effect of recent code changes or those now proposed. The cost implications of mandatory sprinklers, however, were relatively easy to calculate and this proposal had attracted considerable attention.

The industry associations expressed pride over the "world class" standing of Canada's model codes. On the other hand, reference was also made to the growing globalization of business. If construction costs for commercial and industrial buildings rose further because of new building regulations on a variety of fronts above those of other nations, Canada's competitiveness could be impaired.

In summary, there was general agreement that proposed code revisions which would likely have a significant impact on construction costs should be subjected to a cost/benefit study. Consideration is being given by the CCBFC Strategic Planning Task Group to recommending that future proposed code changes should be accompanied by a cost impact analysis prepared by the proponent.

3.4 Enforcement

It was generally acknowledged by representatives of governments, building officials, and industry that the enforcement of building regulations is a serious and growing problem. While there is a common perception that building inspections guarantee building code compliance (and perhaps also quality construction), the inspections being carried out by municipal Building Departments are often only of a monitoring variety -- spot checks on vital aspects related to life safety. (An analogy was drawn to highway police who did not check every car for speeding but just enough to influence most drivers to drive at relatively legal speeds).

If the above description is typical, it should be stressed that there are also opposite extremes -- i.e. some municipalities are very thorough in their coverage, and some conduct very few, if any, inspections.

The enforcement problem has been made worse by the fact that buildings are becoming more complex and require increased skills on the part of the inspectors -- all at a time when the budgets of the Building Inspection Departments may well have been substantially reduced. The prospects of new and expanded code provisions and the trend towards objective-based (performance) codes promise to increase the knowledge requirements of building inspectors even more in the future.

These issues have significant cost implications if the municipalities are to carry out their responsibilities for code enforcement. Assistance from the provincial governments in the development and delivery of training courses for code-enforcers and code-users is another aspect of the same issue.

The situation has caused some jurisdictions to seek other solutions for inspections. These range from employing third party inspectors to relying upon builders for compliance. Bearing in mind the strong economic pressures that sometimes encourage cutting-corners to save costs, the independence of the inspector is an important issue when considering these alternate approaches.

3.5 Code Revision Process

It is generally held that the national model codes revision process works well and prudently. That is not to say that there is no room for improvement. The CCBFC Strategic Planning Task Group has surveyed a sizeable number of stakeholders as to their views on the nature of post-1995 editions, including the code revision process.

The detailed recommendations of the Canadian Home Builders' Association include that the membership of the CCBFC and its Standing Committees afford more representation to owners/builders, and that there be some sort of screening process to test the validity of proposed revisions.

Others have also proposed that criteria be established in this regard and that editorial changes to the code be reviewed only be a sub-committee rather than by the whole membership. These proposals are designed to reduce the very heavy work-load of the volunteer committees and also the number of draft revisions sent out for public review. The sheer volume of this material, in the view of the Saskatchewan Government and others, threatens to hinder a thorough review.

4.0 Key Factors in a Harmonized Building Code System

4.1 Continued Support for the M.O.U.

Under the terms of the text of the Memorandum of Understanding on the National Building Code signed in 1990 (Appendix A), the provinces and territories agreed to enact the National Building Code as the core document for their building regulations, with as few amendments as possible. The preamble to the Memorandum states that "it is desirable to have uniform regulations governing building construction across Canada, to enhance public health and safety, promote efficient construction, and facilitate interprovincial trade."

The NBC is indeed the core document for building regulations across Canada. In 1990 it was the expressed goal to remove most of the significant variations by 1995. However, in some regions the number of variations since then has tended to increase rather than decrease. Moreover, there is a separate code revision procedure in two provinces which is conducive to the development of different provisions and tends to diminish participation in the NBC revision process. The rest of the country thereby loses the benefit of their experience and expertise. Also, the additional review procedures in these provinces can lead to a delay in their adoption of new NBC provisions as well as costly duplication.

Some provinces have indicated that they intend to seek to reduce the number of variations between their building codes and the national model code in conjunction with their review of the 1995 NBC. The harmonization is strongly supported by organizations representing industry practitioners and other key interest groups.

It is now a number of years since the M.O.U. was proposed by the Provincial/Territorial Deputy Ministers Responsible for the Building Industry and in due course signed on behalf of their respective governments. A renewed commitment would be a key basic factor in the on-going retention and strengthening of harmonized building regulations across Canada.

4.2 Involvement of the Provinces and Territories

A companion prerequisite is the full participation of the provincial and territorial governments in the national model codes process in order to better ensure that these codes do meet their needs and therefore facilitate their adoption.

The M.O.U. expresses the mandate of the Provincial/Territorial Committee on Building Standards as being to "provide policy guidance ... on scope, content, format and process of the National Building Code" on behalf of the provincial and

territorial departments responsible for building standards. A leading example of such policy guidance related to the request to the CCBFC that the National Energy Codes be developed. The members of the PTCBS are in most cases the senior officials responsible for the administration of building regulations in their respective jurisdictions. As such, they are well able to discuss code administration and technical matters and to convey their departments' policy positions. Its members were interviewed in connection with the CCBFC Strategic Planning Task Group's work. They have been in receipt of its working papers, and received a progress report from the Task Group's chairman at the Committee's recent meeting, May 16-17.

There have been suggestions that the PTCBS could become more effective if it operated on a "two tier" basis to deal with policy and technical matters respectively.

The degree of provincial participation in the 1990 NBC revision work has varied. Some provinces have submitted proposed changes and/or commented on the revisions recommended by the Standing Committees. Others have not. There is an impression that the draft NBC changes have not received as much attention in those provinces which have their own detailed code review process following publication because of the knowledge that the review work will have to be repeated. This in turn means a significant reduction in valuable inputs from regions with important building programs and the related experience connected with their execution.

The membership of the CCBFC and its Standing Committees provide for representation from all regions. Some provinces or territories provide members. The balance on these bodies would of course be seriously skewed if all 12 senior Authorities Having Jurisdiction were represented on them. However, all of them are represented on the PTCBS. What appears to be lacking in at least some cases is a mechanism for two-way communications between the committee and provincial and territorial government representatives on the Standing Committees.

It has also been noted that the PTCBS' mandate is limited to the National Building Code. The other national model codes have their own specific Standing Committees. Moreover, the Canadian Association of Fire Marshals/Fire Commissioners is comprised of the federal, provincial and territorial governments' top fire officials concerned with the National Fire Code. Nonetheless, the extension of an increased focus on the harmonization of building regulations related to the other national model codes would seem to be timely. The new National Energy Codes may well require special attention in this regard.

4.3 Funding Arrangements

The development and revision of building codes and companion documents is a painstaking, cooperative and consensus-building process. All of this activity bears a considerable cost.

The provinces and territories which adopt the NBC as their building code contribute to the National Research Council's model code preparation expenses inasmuch as code-users purchase the NRC code publications. Alberta and Manitoba have issued their own building codes but have them published by the National Research Council, with a similar revenue effect.

The other two provinces which issue their own building codes benefit from the work related to the revision of the NBC but make no equivalent contribution to the national code development process through the National Research Council. This has led to complaints from some other provinces that they are in effect subsidizing Ontario and British Columbia with respect to code development activities. Document sales revenues of course do not cover all national model code expenses but the volume of building construction (and therefore of building code sales) in Ontario and British Columbia approaches half of the Canadian total.

Some funding arrangement that is more equitable in its application or generates more revenues for the national model codes system is vital. Otherwise, it could be in jeopardy.

4.4 Evaluations System

Building codes permit the use of new products or systems if they are deemed to be the equivalent of those that are referenced. The number of innovative materials and processes not yet covered by standards or for which no third-party certification program is established is steadily growing. In this regard, the importation of foreign building products is an important factor.

Following detailed consultations with industry, the provincial governments and federal agencies administering or insuring construction projects, the Canadian Construction Materials Centre (CCMC) was established within the NRC Institute for Research in Construction to make such evaluations.

The PTCBS has formally supported the use of CCMC evaluations as a basis for determining the acceptability of products within the context of building code requirements. Moreover, in Ontario, CCMC is the only organization designated as a materials evaluation body for the purposes of supporting Minister's Rulings on innovative materials, systems and building designs under the Ontario Building Code Act.

(The Ontario Building Materials Evaluation Commission retains residual powers under the Act for materials, systems or building designs which CCMC has not examined or has not expressed its intention to examine).

Previously several provinces operated their own materials evaluation service for the operation of their building regulations. It was agreed that there would be worthwhile economies and other benefits if this activity was consolidated and conducted at the national level. Canada Mortgage and Housing Corporation and Public Works and Government Services Canada also accept the construction products that have been favourably evaluated by CCMC.

4.5 Code Enforcement

Building regulations are only words on paper unless there is an effective "delivery system" for their enforcement. The administration of building codes varies greatly across Canada. Generally speaking, the responsibility for building code enforcement and inspections has been delegated by the provincial governments to their municipalities. Even in major cities where professional and technical inspection staffs are maintained, inspections are in practice often only monitoring or spot checks. Outside of the main centres there is often little or no inspection or auditing of the activity. In some provinces some municipalities have contracted-out some or all of the inspections for code compliance to the private sector.

The B.C. Building Code requires that there be on major buildings a professional design coordinator with whom the building inspector can work and require that the various aspects are signed off as complying with the code. In the Greater Vancouver area, architects and engineers who demonstrate their knowledge of the building code can qualify as "Certified Professionals" whose plans need not be examined.

In Alberta a comprehensive program is being implemented whereby public and private inspectors are being certified to perform code compliance inspections. In Quebec the municipalities are to perform monitoring inspections but the prime reliance is placed on having designers certify that their designs comply with the NBC and on having builders (who are licensed in Quebec) certify that they have built the building in compliance with the code. In New Brunswick provincial inspectors operate in the unorganized areas. Prince Edward Island used to have a number of inspectors for work not covered by the municipal inspectors in Charlottetown and Summerside. Now the main responsibility for code compliance rests on the builder. Code compliance inspections in Newfoundland is limited to six municipalities; elsewhere the onus is on the builder. In the Territories,

municipalities such as Whitehorse and Yellowknife employ building officials but otherwise responsibility for enforcement rests with the Public Safety Branch in the Yukon Department of Community and Transportation Services and with the Office of the Fire Marshal in the Northwest Territories Government.

The effective administration of building regulations, once approved by the "Authority Having Jurisdiction", requires a comprehensive knowledge of the code on the part of code-enforcers and users. Some sections require specialist expertise. Education falls under provincial jurisdiction. The availability across Canada of training courses on the building code varies widely from being comprehensive to virtually non-existent. Certification programs for municipal building inspectors are in operation or are planned in most of the provinces, but to date there is no national standard.

There have been some promising developments. The Ontario Ministry of Housing and Alberta Labour have in particular devoted considerable resources to the development of code-related training courses. Provincial Building Officials' Associations, New Home Warranty Programs, electrical utilities, product associations etc. have participated in the offering of training programs for building officials and code-users. A CMHC-sponsored National Conference on Building Inspectors' Training and Certification, held in Ottawa in April, 1993, focused attention on the scope for improved coordination in these areas. The Council of Canadian Building Officials Associations (CCBOA) is currently studying proposals for a restructuring, with heavy emphasis on training programs and reciprocal recognition for those who have qualified as Certified Building Officials in a different province. The Inter-Provincial Building Code Education Committee is represented on the CCBOA steering committee.

The downsizing of municipal building inspection staffs and cuts in training budgets in recent years have exacerbated the difficulty of enforcing building regulations, especially in the face of their increased scope in accordance with provincial policy.

4.6 Information Sharing

Another area for co-operation and a key factor in assisting in the support of a harmonized building code system is that of the sharing of code interpretations, technical information, research findings, and experience in administering building regulations.

Much of the infrastructure already exists and there are many examples which could be cited concerning the valuable exchange of code-related information. However, a truly effective exchange does not occur unless it is deliberately organized and monitored. For example, during the Canadian Residential Inspection Industry survey in 1992 it became apparent that two provinces had conducted extensive studies on the detailed breakdown of a building inspector's duties, as a basis for the subsequent development of training modules to meet these requirements. In both instances advisory committees had been set up representing different ministries or departments, inspectors, industry practitioners etc. There was no inter-provincial knowledge of this largely duplicated, lengthy and expensive effort. Now a network exists which enables the sharing of building inspection experience.

There would appear to be considerable scope for a more extensive sharing of technical information relating to the operations of building regulations. This in turn should help to build a stronger nation-wide consensus on codes and related support mechanisms and programs.

5.0 Recommendations for Consideration

The following recommendations are suggested for consideration by the Provincial and Territorial Ministers of Housing and by the Minister Responsible for Canada Mortgage and Housing Corporation with a view to building a stronger consensus on the National Building Code and on related support mechanisms and programs:

5.1 Encourage the Provincial and Territorial Department/Ministry/Agency having jurisdiction over building regulations to implement the 1990 Memorandum of Understanding to the greatest possible extent by:

- 5.1.1 Adopting the 1995 National Building Code as the core document for building regulations
- 5.1.2 Reviewing any variations from the 1995 National Building Code contained in provincial or territorial building regulations and determine whether the maintenance of such variations is supported by code-users
- 5.1.3 Clearly identifying any such remaining variations so that code-users are made aware of them and can take them into consideration
- 5.1.4 Encouraging Municipal Governments to assist in achieving the benefits of harmonized building regulations by refraining from adopting higher minimum building standards without first submitting them for consideration in the national model codes consensus process
- 5.1.5 Synchronizing the future NBC revision cycles with any detailed provincial code revision cycles, thereby maximizing inputs and facilitating a more uniform adoption date across Canada of the revised codes.

(It is understood that the CCBFC is contemplating a major revision of the NBC every 6 years, with an interim revision every 3 years in between. This is close to the present cycle followed in Ontario and British Columbia -- i.e. an interim revision in the middle of the 5-year major revision cycle).

- 5.1.6 Reviewing the effectiveness of the Provincial Territorial Committee on Building Standards as a mechanism for providing policy and technical guidance to the Canadian Commission on Building and Fire Codes and for helping to achieve the goal of the 1990 Memorandum of Understanding on the National Building Code; and whether any of the companion national model codes would benefit from a similar arrangement.
- 5.2 Encourage the establishment of a suitable arrangement or arrangements whereby all of the provincial and territorial governments benefitting from the national model codes development and revision process contribute to its funding on an equitable basis.
- 5.3 Facilitate the delivery of appropriate building regulation enforcement systems by:
 - 5.3.1 Encouraging the development and presentation of building code courses for code-enforcers and code-users
 - 5.3.2 Fostering the establishment of certification programs attesting to the competence of qualified building inspectors and for the reciprocal recognition of such certificates across Canada
 - 5.3.3 Considering code certification programs for design professionals and builders.

(Inadequate enforcement of building regulations not only dilutes their value but also tends to increase liabilities for all concerned).
- 5.4 Encourage the adoption of the National Energy Code for Houses.
- 5.5 Encourage the sharing of other code support programs including the sharing of code interpretations, technical information, evaluations guides and commentaries, research findings and experience in building regulation administration.

MEMORANDUM OF UNDERSTANDING
BETWEEN
NATIONAL RESEARCH COUNCIL
AND
THE PROVINCES AND TERRITORIES
OF CANADA
ON THE
NATIONAL BUILDING CODE

PROTOCOLE D'ENTENTE
ENTRE
LE CONSEIL NATIONAL
DE RECHERCHES
ET
LES PROVINCES ET TERRITOIRES
DU CANADA
CONCERNANT
LE CODE NATIONAL DU BÂTIMENT

I PURPOSE

Whereas it is desirable to have uniform regulations governing building construction across Canada, to enhance public health and safety, promote efficient construction and facilitate interprovincial trade;

And, whereas it is recognized that the regulation of building construction is a matter of provincial and territorial jurisdiction;

And, whereas the National Research Council, through the Associate Committee on the National Building Code, has been carrying on the development of the National Building Code;

And, whereas it is desirable that the National Research Council continue to develop a model National Building Code with policy guidance from the provincial and territorial departments responsible for building standards through the Provincial/Territorial Committee on Building Standards;

And, whereas the parties hereto desire to formalize the relationship between the provinces and territories and the National Research Council to facilitate the adoption of the National Building Code.

I OBJET

Considérant qu'il est souhaitable que les règlements régissant l'industrie du bâtiment soient uniformes partout au Canada pour améliorer la santé et la sécurité du public, encourager la construction de qualité et faciliter les échanges interprovinciaux;

Considérant que la réglementation sur l'industrie du bâtiment est de juridiction provinciale et territoriale;

Considérant que le Conseil national de recherches du Canada, par l'entremise du Comité associé sur le Code national du bâtiment, s'est occupé de l'élaboration du Code national du bâtiment jusqu'à maintenant;

Considérant qu'il est souhaitable que le Conseil national de recherches du Canada poursuive l'élaboration du Code national du bâtiment suivant les orientations des ministères provinciaux et territoriaux responsables des normes de construction soumises par le Comité des provinces et des territoires pour les normes de construction;

Et, considérant que les parties aux présentes souhaitent officialiser les relations entre les provinces et territoires et le Conseil national de recherches du Canada pour faciliter l'adoption du Code national du bâtiment.

II UNDERSTANDING

Therefore, the parties hereto agree:

1. That the provinces and territories will enact the National Building Code as the core document for building regulations in each province and territory with as few amendments as possible;
2. That the Provincial/Territorial Committee on Building Standards, on behalf of the provincial and territorial departments responsible for building standards, shall provide policy guidance to the Associate Committee on the National Building Code on scope, content, format and process of the National Building Code;
3. That a member of the Provincial/Territorial Committee on Building Standards shall be an ex officio non-voting member of the Associate Committee on the National Building Code;
4. That the Deputy Chairman of the Associate Committee on the National Building Code shall be an ex officio non-voting member of the Provincial/Territorial Committee on Building Standards;
5. That, where consensus on issues relating to the scope, content, format and process of the National Building Code cannot be reached between the Provincial/Territorial Committee on Building Standards and the Associate Committee on the National Building Code, the matter shall be referred to a Committee of Deputy Ministers responsible for building standards in the provinces and territories and the National Research Council for resolution;
6. That, where consensus on issues referred by the Provincial/Territorial Committee on Building Standards and the Associate Committee on the National Building Code to the Committee of Deputy Ministers and the National Research Council, cannot be reached, such matters will not be published in the National Building Code;
7. That the National Research Council will provide secretariat services to the Provincial/Territorial Committee on Building Standards through the Institute for Research in Construction;

II ENTENTE

En conséquence, les parties aux présentes conviennent de ce qui suit:

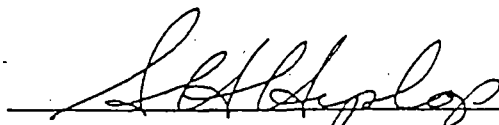
1. Les provinces et les territoires adopteront le Code national du bâtiment comme document de base pour les règlements sur le bâtiment dans les provinces et les territoires avec le moins d'amendements possibles;
2. Le Comité des provinces et des territoires pour les normes de construction, au nom des ministères provinciaux et territoriaux responsables des normes de construction, établira des orientations pour le Comité associé du Code national du bâtiment quant au champ d'application, au contenu, à la forme et au processus d'élaboration du Code national du bâtiment;
3. Un membre du Comité des provinces et des territoires pour les normes de construction sera d'office un membre non-votant du Comité associé du Code national du bâtiment;
4. Le vice-président du Comité associé du Code national du bâtiment sera d'office un membre non-votant du Comité des provinces et des territoires pour les normes de construction;
5. En l'absence de consensus sur le champ d'application, le contenu, la forme et le processus d'élaboration du Code national du bâtiment entre le Comité des provinces et des territoires pour les normes de construction et le Comité associé du Code national du bâtiment, le litige sera soumis au Comité des sous-ministres responsables des normes de construction dans les provinces et les territoires et au Conseil national de recherches du Canada;
6. En l'absence de consensus sur un sujet soumis par le Comité des provinces et des territoires pour les normes de construction et le Comité associé du Code national du bâtiment au Comité des sous-ministres responsables des normes de construction dans les provinces et les territoires et au Conseil national de recherches du Canada, le sujet faisant litige ne sera pas publié dans le Code national du bâtiment;
7. Le Conseil national de recherches du Canada fournira les services de secrétariat au Comité des provinces et des territoires pour les normes de construction par l'entremise de l'Institut de recherche en construction;

8. That a signatory to this agreement may terminate their participation in it upon 6 months written notice to the other participants of the agreement.

8. Tout signataire de cette entente peut mettre fin à sa participation sous réserve d'un préavis écrit de six mois aux autres participants à l'entente.

Executed in duplicate, both originals to be held at the National Research Council.

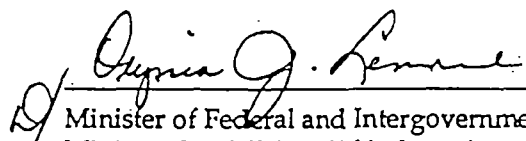
Produit en duplicata, les deux originaux étant conservés au Conseil national de recherches.


Deputy Minister of Labour/Sous-ministre du Travail
Province of Alberta/Alberta

Date June 04, 1990

Approved pursuant to the Alberta Department of Federal and Intergovernmental Affairs Act.

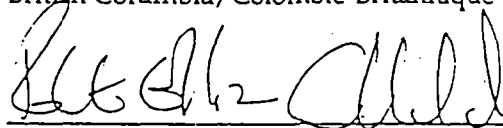
Approuvé conformément à la loi régissant le ministère des Affaires fédérales et intergouvernementales de l'Alberta


Minister of Federal and Intergovernmental Affairs/
Ministre des Affaires fédérales et intergouvernementales


Date June 04, 1990


British Columbia/Colombie-Britannique

Date May 1, 1990


Manitoba/Manitoba

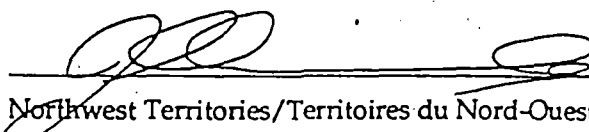
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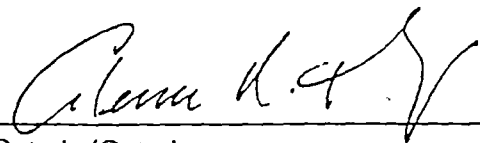
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Northwest Territories/Territoires du Nord-Ouest

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Nova Scotia/Nouvelle-Écosse

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Ontario/Ontario

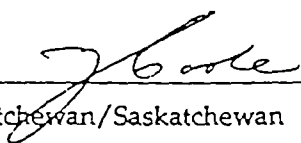
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Prince Edward Island/Ile du Prince-Édouard


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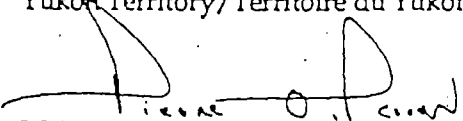
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Saskatchewan/Saskatchewan

July 5/90
Date


Yukon Territory/Territoire du Yukon

90/06/12
Date


National Research Council/
Conseil national de recherches
du Canada

21.03.90
Date

Appendix B**Status of Harmonization and Key Interest Groups' Viewpoints****B.0 Key Interest Groups' Viewpoints****B.1 "Authorities Having Jurisdiction"**

Only in Ontario does the Ministry of Housing have jurisdiction over the legislation governing building regulations. All Housing Ministries/Departments, however, have a vital interest in the building, plumbing and fire codes and in the proposed energy codes for houses -- and in their increased harmonization.

The following is a brief summary of the present situation concerning key code issues and plans for the review of the 1995 National Building Code and National Energy Code for Houses. The major issues were dealt with in Section 3.0.

British Columbia

In March, 1994 the Ministry of Municipal Affairs issued a comprehensive discussion paper on the B.C. Building Code and B.C. Plumbing Code and related issues.³ This paper followed consultations with industry and municipal government representatives during the previous 18 months. It noted that whereas some 95% of the provincial population lives in areas governed by the Code, over half of the land mass of British Columbia, primarily in the north, is not covered by it. "Options for Renewal" are suggested concerning Roles and Responsibilities, Liability of Local Government, Use of the B.C. Building Code, Training and Certification, Product Approvals, and a Review of Building Legislation and Regulations. Comments are invited until June 30, 1994, to assist the Ministry in establishing an action plan later this year.

The first option presented for the code is to "Adopt a Uniform Code Province-Wide, with a New Code Change Process". The uniform code could be the NBC or one, as now, based largely upon it. The code change process would "address the needs of local government and industry in a timely manner, possibly through the use of regional code advisory committees".

³"The Building Regulatory System in British Columbia -- Options for Renewal"

The B.C. Building Standards Branch has submitted proposed changes to the 1990 NBC and has commented on some of the proposals during the Public Review. The Branch has no staff members on NBC Standing Committees. It was stated in an interview that a preferred procedure for revising the NBC would be to first have inter-provincial discussions and agreement as to desired changes, rather than for the provinces to review changes after they had been issued.

British Columbia adopted an "open change process" in 1985. It has evolved into a system that provides for code changes every 2 1/2 years, with alternate reviews coordinated with changes in the NBC's 5-year cycle. Proposed changes are studied by the Building Code Advisory Committee, comprised of 12 representatives from government and industry. Its recommendations are subject to a 3-month public review period. The committee's final recommendations are passed to the Building Standards Branch which in turn submits its recommendations to the Minister of Municipal Affairs. It is likely that the process involving the 1995 NBC will take from 1 to 1 1/2 years, with the prospect of a new B.C. Building Code being published towards the end of 1996.

The Building Standards Branch is said to be "neutral" about the draft National Energy Codes. The Ministry of Energy & Petroleum will be conducting a review process, commencing with a workshop in Vancouver on June 1, 1994. This is to be followed by a more formal clause-by-clause review by an Advisory Committee established for each of the draft codes. Their recommendations will be submitted to the Minister of Energy. The final decision will rest with the Minister of Municipal Affairs.

Alberta

The NBC is adopted under the Alberta Uniform Building Standards Act. Alberta's decision to augment the NBC with additional Parts to form the Alberta Building Code is in accordance with the policy to gather all related safety regulations within the one document. Responsibility for safety regulations has been transferred to the Alberta Safety Codes Council which, in turn, has safety committees, representative of the principal interest groups, established for the various sectors subject to regulatory controls.

Alberta is represented on the CCBFC and has participated in the revision process for the 1990 NBC. One expressed concern is that the volume of proposed changes hinders due consideration. The Alberta Safety Codes Council will be involved in the review of the 1995 NBC.

There is some question over the necessity of reviewing all changes, especially those of an editorial nature. The provincial review normally takes from 6 to 8 months, leading up to a new edition of the Alberta Building Code.

Alberta already has regulations for thermal insulation requirements in single family dwellings and is actively reviewing the draft National Energy Codes. Recommendations will be submitted to the Alberta Safety Codes Council. A public review is also possible. Recommendations will be passed to the Minister of Labour.

Saskatchewan

The 1990 NBC was adopted in 1992 under the Saskatchewan Uniform Building and Accessibility regulations. Some provisions were modified but no extra Parts were added. The Ministry of Municipal Government is not represented on NBC Standing Committees but did submit proposed changes to the 1990 NBC. The province's Chief Building Inspector is chair of the PTCBS. She has questioned the large number of proposed NBC revisions.

Public comment will be invited on the 1995 NBC and Saskatchewan Regulations. The target date for adoption is January, 1996. No decision has yet been made concerning the review of the draft National Energy Codes.

Manitoba

The 1992 Manitoba Building Code is based on the 1990 NBC, and includes a number of Manitoba Amendments -- e.g. thermal insulation requirements derived from Measures for Energy Conservation in New Buildings, and acceptance of the CSA standard for mobile homes. The National Plumbing Code and the National Fire Code are similarly adopted by the province. The governing legislation (the Buildings and Mobile Homes Act and the Fire Prevention Act) are administered by one Branch within the Department of Labour. The CSA Electrical Code, called up in the NBC, is now used instead of the previous Manitoba Electrical Code.

The Branch is represented on CCBFC Standing Committees and has both submitted and reviewed proposed revisions to the NBC. There is an advisory committee which also reviews code revisions and submits recommendations to the Minister of Labour. This technical review normally is completed within 6 months' time.

The Department of Energy has appointed a task force to facilitate the review of the draft National Energy Codes. The task force's membership is comprised of representatives of the key stakeholders. Meetings with interest groups to explain the codes have commenced.

Ontario

The Ontario Building Code is a regulation issued under the Ontario Building Code Act. It is based on the 1990 NBC but has more amendments than any of the other provincial building codes. A major review takes place following the revision of the NBC and there is an interim issuance of building regulations roughly in the middle of the NBC 5-year cycle. The Ontario review of the last NBC and issuance of the new Ontario Building Code both took place in 1990. The 1993 revisions to the Ontario Building Code included requirements for energy efficiency in buildings, the ventilation of dwelling units, and responses to building problems experienced under the New Home Warranty Program. Review Committees are set up for each Part of the building code to consider proposed revisions. There are currently some 10 task groups working on Ontario-specific topics related to the Ontario Building Code.

The Ontario Buildings Branch of the Ministry of Housing is represented on CCBFC Standing Committees and Task Groups and has passed on OBC revisions for consideration in the revision of the 1990 NBC. Comments on its draft revisions have been made through participation on Standing Committees but no comprehensive response was made during the recent 3-month public review period. The 1995 NBC will be studied by the Review Committees, together with other suggested changes to the Ontario Building Code. It is contemplated that the next edition of the Ontario Building Code will be issued in 1997.

Among the concerns expressed by the Ministry about the national model codes revision process is that insufficient attention is given to the potential impact of code changes on costs and affordability, and on the "delivery system" -- i.e. municipal building officials.

It is reported that the ASHRAE 90.1 energy conservation measures introduced in the Ontario Building Code in 1993 generated a strong reaction. The Branch will accordingly wish to assess whether the draft National Energy Codes will, if adopted, significantly save more energy and be easier or more difficult to administer. Cost factors will also be important, although in this respect the fact that Ontario already has energy conservation regulations in place may be a mitigating factor.

The Ministry of Environment and Energy will participate in the code review process along with other stakeholders. It contends that the provisions in the National Energy Codes surpass those in the coverage of the current Ontario Building Code regulations and would be easier to administer. In the past, the Ministry and Ontario Hydro have launched training and public awareness programs to support energy conservation regulations, and would be prepared to do so again.

Quebec

The 1990 NBC was adopted in November, 1993 by Quebec under the regulations of the Public Buildings Safety Act. Public Buildings are those which are used for other than personal use. Municipalities may adopt their own by-laws for such buildings but they must not be less than those presented in the NBC. As noted above, 1 and 2 storey housing having 7 or fewer dwelling units still are governed by municipal building by-laws. Most municipalities having such by-laws have adopted the 1990 NBC for residential buildings.

The Régie du Bâtiment du Québec is represented on the CCBFC and on Steering Committees. It has announced its schedule for the review of the 1995 NBC and National Energy Codes. The adoption target date is in 1995.

Quebec already has an energy code, based on Measures for Energy Conservation in New Buildings. Accordingly, the focus on the review of the National Energy Codes will include such options as the expansion of the present code or the adoption of the National Energy Codes.

The Ministry of Energy has formed a multi-disciplinary Implementation Committee representing the private and public sectors. The terms of reference for various studies are being formulated -- e.g. the impact of the National Energy Codes on costs, environment, regional development etc. The program is due to start in July. About 25 groups have to date expressed interest in the draft codes. A task force is already active in reviewing insulation values for Quebec. Hydro-Québec and Gaz Métropolitain are also heavily involved. Substantial results are anticipated by the end of 1994. The development of suitable software has been identified as a priority item. The fact that the National Energy Codes are more performance-based is deemed to be a strong marketing factor in their acceptance in that people will have a choice between performance and prescriptive provisions.

New Brunswick

The New Brunswick Community Planning Act requires that any municipality adopting a building by-law adopt the latest edition of the NBC referenced in the statute. The latter is currently the 1990 edition. Its subsequent annual revisions as issued by the CCBFC have also been covered in New Brunswick by regulation. 108 out of 117 municipalities have adopted the NBC and there is some enforcement of the code by the Province in rural areas. The municipalities have the option of enacting additional building regulations. For example, the City of Saint John has adopted fire regulations that are more stringent than those contained in the National Fire Code.

The New Brunswick Department of Municipalities is not currently represented on the CCBFC Standing Committees and did not submit any proposed revisions to the 1990 NBC. To date it has been only involved indirectly in reviewing the proposed code changes -- e.g. discussing them with interest groups such as the Atlantic Home Warranty Program.

In general, reliance is placed on the NBC review procedures. Adoption of the 1995 NBC will only require legislative action and it is anticipated that this will be achieved without undue delay. New Brunswick is a leader in the proportion of R2000 houses being built and the early adoption of the National Energy Codes is anticipated.

Prince Edward Island

Charlottetown and Summerside have adopted the 1990 NBC. An act providing for a provincial building code has been passed but not proclaimed because of concerns expressed from rural areas.

Nova Scotia

The 1990 NBC was adopted in June, 1991 under the Nova Scotia Building Code Act and regulations. Section 3.7 on Barrier-Free Design was replaced by provincial legislation in 1993. The CSA standard on mobile homes has also been accepted.

The Nova Scotia Department of Municipal Affairs is represented on CCBFC Steering Committees and has both submitted and commented on proposed changes. A review will be made by the Department of the major changes in the 1995 NBC and the conclusions set forth in a position paper. This will be sent to the Building Code Advisory Committee and to interested Provincial Departments for comment. Following this procedure, recommendations will be submitted to the Minister.

It is planned to incorporate consideration of the new National Energy Codes in the building code review. It is anticipated that the overall process will take at least a year to complete. The Nova Scotia Department of Natural Resources is working with stakeholder groups on the draft National Energy Codes and is urging them to submit their comments to the Standing Committee on Energy Conservation. Two meetings have been held with the Nova Scotia Building Code Advisory Committee. Assistance has been offered for public affairs/information programs and future training programs related to the energy codes. The Department has supplied the chair of a national Energy Code Steering Committee representing those agencies that have contributed funding to support the technical development of the draft National Energy Codes.

A perceived need in the national model codes development program is a code for renovations. Currently there is a conflict with heritage legislation.

Newfoundland

All but a few of the province's municipalities have adopted the 1990 NBC. In addition, the province introduced regulations on barrier-free access that are more extensive than those contained in the 1990 NBC. The Department of Employment and Labour Relations is reviewing the possibility of legislating a Provincial Building Code but is concerned about its enforcement; some areas might be exempted.

The Department has not been actively engaged in the 1990 NBC revision process. No plans have been formulated for the review of the 1995 NBC or National Energy Codes.

B.2 Industry Associations

Organizations representing builders and contractors, architects and engineers, building and fire officials, manufacturers, owners, labour and insurers have adopted policies advocating the use of the national model codes to the "Authorities Having Jurisdiction" across Canada. A list of 18 national bodies was listed as commending the National Building Code, National Fire Code etc. opposite their title pages in editions up to and including those published in 1980. Subsequently the list was omitted because the need for such public advocacy had been very largely met by the widespread actions of provincial, territorial and municipal governments in adopting the model codes. The goal of uniform building regulations, however, remains a current policy of leading organizations -- notably those representing on-site construction, building officials and manufacturers.

Canadian Home Builders' Association (CHBA)

Building regulations constitute a priority issue for the CHBA and its member Home Builders' Associations, Manufacturers' Council and Home Warranty Program Council. The CHBA strongly endorses the adoption of uniform building codes across Canada, while at the same time seeking changes in the revision process.

A comprehensive discussion paper⁴ was sponsored by the CHBA and distributed throughout its network and to other interested parties in late 1993. This has been followed by the development of a position paper by the Association. Excerpts from a series of 44 recommendations have been submitted to the CCBFC Strategic Planning Task Force.⁵ The final text of the position paper will include inputs from member Home Builders' Associations.

The CHBA has expressed the following as a "fundamental" policy position:

"The uniform national building code is a vital and highly valued part of the knowledge-based "technology infrastructure" that underpins the building industry in this country. The substantial uniformity allows product manufacturers to reach economies of scale, building firms to work in more than one geographic area, and labour to move across the country. This includes not only tradesmen, but the whole "knowledge-based" set of skills learned and regularly updated by builders, construction superintendents, architects, engineers, distributors, the regulatory/research establishment, plans examiners, building inspectors, and so on. Because codes are so similar, people can apply their skills across the country. CHBA strongly supports the principle of uniform minimum standards."

The Association recommends that:

"All players should reaffirm their commitment to a core model code of MINIMUM standards for health, safety and structural sufficiency. If further requirements are deemed necessary, national model standards should be produced and maintained as separate documents."

⁴"Where Do We Go From Here? A Discussion Paper on the Future Role of the National Building Code", prepared by A.T. Hansen Consulting Services, November, 1993.

⁵"CHBA Position Paper on the Role, Scope and Purpose of the NBCC", March 31, 1994

"As long as the national code qualifies as a core model code of minimum standards, as above, all players, especially provincial governments, should reaffirm their commitment to UNIFORM building codes, using the national model. Where there are differences of opinion, these should be resolved in plain view. Where there are differences in requirements, these should be highlighted in the text of the codes themselves. CCBFC should enhance its efforts to promote uniformity."

The CHBA's position on energy conservation regulations is that they do not belong in the core model NBC -- but "must be rationalized on a technically sound and consistent basis. The best way to do this is through a separate companion document to the NBC".

Among its other recommendations, the Association advocates that the CCBFC membership be revised to provide more builder/owner representation and that all proposed code changes be subjected to tests as to whether a problem exists and if the proposal would alleviate it. All proposals with significant cost implications should be subjected to a cost/benefit analysis -- e.g. sprinklering.

Canadian Construction Association (CCA)

The CCA's current Policy Statements contain the following item:

"Building Codes

"CCA strongly supports the provinces and municipalities of Canada on their general adoption of the National Building Code of Canada. Such action has brought the national goal of uniform building regulations very close to being fully realized. As a final step in the process, CCA recommends that the provinces and municipalities take appropriate action to ensure that the latest editions of the NBCC are adopted as they become available, without undue delay and without change to the technical content of the Code."

The CCA is a strong advocate of the elimination of provincial/territorial/municipal preference policies which constitute construction trade barriers within Canada. Building regulations have sometimes served this purpose. The North American Free Trade Agreement specifically prohibits the use of standards as a non-tariff trade barrier.

Council of Canadian Building Officials Associations (CCBOA)

The Council's "Objects" lead off with the following:

- "a) To foster and co-operate in the establishment throughout Canada of uniform regulations in the public interest relating to buildings and structures and their planning, construction, demolition, alterations, renovation, maintenance, operation and renewal, insofar as such matters relate to fire protection and prevention, structural adequacy, safety, health, durability and the environment.
- "b) To work to obtain Provincial or, if appropriate, Territorial or Municipal adoption of the regulations described in a) and to strive to minimize and, if possible, eliminate Provincial, Territorial and Municipal differences with respect to such regulations."

The CCBOA's "Objects" also give particular stress to training programs for building officials concerning requirements of building codes. Concern has been expressed over the dilemma the building inspection community faces due to the increased knowledge required to fulfil their responsibilities on the one hand, and reduced resources on the other. Buildings are becoming increasingly complex. Because of fiscal restraints, many municipal Building Departments have been downsized and training budgets cut.

Construction Product Manufacturers' Associations

Many of the associations representing the manufacturers of products used in the building process devote a considerable portion of their resources to the area of Codes and Standards. Typically this includes the operation of Codes and Standards Committees, the appointment of specialized staff to service this field, publications, and seminars and training aids. Examples include the Canadian Institute of Steel Construction, the Canadian Portland Cement Association, the Canadian Window and Door Manufacturers' Association of Canada, the Canadian Wood Council; the Heating, Refrigerating and Air Conditioning Institute of Canada; and the Society for the Plastics Industry in Canada. The Canadian Manufactured Housing Institute represents the manufacturers of factory-built houses and mobile homes and is concerned with the acceptance of entire units as well as of component parts.

Another factor which such associations have in common is their support for harmonized building standards across Canada. (Should they fail to persuade the CCBFC national model codes Standing Committees to accept their products, they naturally may take advantage of the opportunities of trying again with Authorities Having Jurisdiction which publish their own codes. However, their basic preference is to have one code which applies to the whole domestic market).

In like fashion, there is a tendency for manufacturers' associations to recommend that the NBC's scope be generally limited to the traditional factors of health, safety and structural sufficiency. Firstly, building regulations in these fields cannot be challenged under GATT. Secondly, there is concern that the inclusion of other public policy issues in the scope of the NBC is more contentious and may therefore cause some Authorities Having Jurisdiction to delay or refrain from adopting the model code. And thirdly, there is concern that if the provisions of Canadian building codes become too onerous, compared to those of other nations, Canada's competitive position may be impaired.

B.3 Consumers

The Consumers' Association of Canada (CAC) favours a greater harmonization of building codes across Canada and sees it as being in keeping with the Internal Trade Initiative. The association supports a broadened scope for the codes provided that the extra NBC provisions or separate codes are cost-effective. The built-in flexibility of the draft National Energy Codes, which recognize regional conditions, is welcomed.

The reduced incidence of code inspections because of fiscal pressures is said to be resulting in a Buyer Beware marketplace. Canadian consumers accordingly require more training to allow for informed choices. The provision of manuals on the operation of furnaces, windows etc. is said to be rare. In view of the reduced inspection coverage, CAC supports the targeting of high risk buildings. Whereas the regulatory authorities are placing more reliance on self-regulation by industry, the CAC contends that a systems approach to ensure that buildings are designed, built and properly maintained in compliance with the codes is still required. "Safeguards to ensure adequate monitoring and enforcement, accountability, and effective participation by consumer interests" are advocated.