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Canadian Commission
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Codes

Commission canadienne des
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prévention des incendies

Ottawa, Canada
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BFC-13,447

January 24, 2011

Mr. John Kenward
Chief Operating Officer
Canadian Home Builders' Association
150 Laurier Avenue West, Suite 500
Ottawa, Ontario
K1P 5J4

Re: The New EnerGuide Rating System and Part 9 Houses

Dear Mr. Kenward:

Thank you for your December 7th, 2010, letter in which you express the need for coordination and alignment between NRCan's new EnerGuide Rating System (ERS) and CCBFC's proposed Part 9 energy efficiency requirements.

Before I respond to your three questions, please allow me to make a few general remarks:

First, please let me assure you that the CCBFC and Natural Resources Canada have agreed to and act upon a proactive and effective coordination of tasks, activities and outcomes. This is visible through NRCan staff participating on every sub-task group under the Joint Task Group on Energy Efficiency and on the JTG itself. At the same time, NRC-CCC staff participates on the NRCan Policy Advisory Committee for the next generation ERS, the R-2000 Technical Committee and the Energy Star Committee. A CCBFC member also participates on the ERS Policy Advisory Committee to help with liaison.

The goal of this cooperation is indeed to ensure that code and ERS work seamlessly together and side-by-side. Please note, however, that the ERS is meant to be a home rating tool, while the NBC Part 9 requirements set a minimum level of acceptable performance for housing and small buildings.

The CCBFC understands that the new ERS and its tools and data are intended to be

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supportive of the code development system. The ERS addresses the same issues that the proposed code requirements address, namely energy used for space heating, ventilation and service water heating, but it also addresses a number of other issues (e.g. plug loads and renewable energy technologies).

Please also note that the modeling for the performance path in the NBC will use the prescriptive NBC requirements as reference. Meanwhile, the scale developed by NRCan for the new ERS can easily reference the performance level of the national or that of any provincial code.

You are correct in stating that the proposed energy efficiency requirements in Part 9 exclude a consideration for different fuel sources (same direction as for the proposed requirements in the NECB).

You are also correct in stating that the proposed energy efficiency requirements in Part 9 remain silent on renewable energy technologies, which is also in line with the proposed NECB approach.

However, “being silent” does not mean “not allowing” renewables. I.e., not explicitly addressing renewable energy technology does not prohibit accounting for them using the performance path. Since the code would be silent, however, the final decision on whether that is acceptable would be the responsibility of each authority having jurisdiction (AHJ). This concept, which would rely on the use of simulation tools that can give credit to renewable energies, will be explained in the guidance document for a flexible adoption framework that we intend to prepare for use by the provinces and territories together with the proposed requirements.

The JTG has recognized that properly addressing renewable energies in the form of specific credits and exemptions would necessitate a larger discussion on other fuel types and their respective embodied (primary) energy and also that specifying a generic maximum permissible energy amount for buildings would facilitate that discussion.

While the JTG currently is not proposing to explicitly reference the ERS system (or any specific rating), the ERS rating system is recognized during the discussions as an important compliance tool. An AHJ may choose to refer to the ERS for compliance purposes, but referencing it in the national model provisions would be considered an administrative requirement that is considered outside the mandate of model codes. Recommending the inclusion of an administrative requirement at the time of adoption could also be something CCBFC chooses to address in the guidance document for a flexible adoption framework.

The proposed code requirements assess the energy efficiency of houses as a subset of how the ERS addresses the energy efficiency of houses. This means that the ERS system can be used to express code compliance, but not vice versa. The sTG on Building Energy Performance Compliance is developing the input assumptions for software tools like HOT2000 in order to produce a “code compliance report”. NRCan can then incorporate such a report into the HOT2000 software.

1) Will the CCBFC provide clear and specific directions to the JTG-EEHSB that draft requirements for energy efficiency in Part 9 houses must include a performance path route that is fully compatible with the new ERS, and that will provide an acceptable basis for jurisdictions to verify code compliance based on the ERS rating of a house carried out by a qualified person?

While the CCBFC has not issued such a policy advice, I am confident that the committees are working on such a premise and that the Canadian Codes Centre staff and NRCan staff work closely together to make sure code requirements and ERS criteria are in full sync. But I would note again that selecting acceptable methods for demonstrating compliance is an administrative issue that is at the discretion of the authorities having jurisdiction. Per above, this could be something CCBFC chooses to address in the guidance document for a flexible adoption framework.

2) Given that the new ERS rating will be determined using an updated version of the federal government's HOT2000 modeling software, will the CCBFC direct Code Centre staff to work with NRCan to ensure that compliance with Code requirements can be simply and directly demonstrated using HOT2000 outputs?

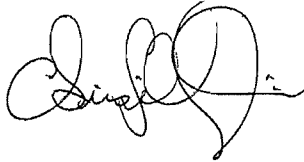
As I stated in my response above, such collaboration is already happening at staff and committee levels. In addition, I am aware that the Canadian Codes Centre and NRCan have regular meetings to discuss this collaboration.

3) Given that the new ERS rating for a newly constructed home will reflect net energy consumption, and will include consideration of plug loads and on-site renewable contributions, while Code requirements may reflect a narrower view of house energy efficiency, will the CCBFC confirm its commitment to work with NRCan to ensure that these methodological differences do not negatively impact new home builders, their customers or persons certified by NRCan to deliver the ERS?

Part 9 “energy efficiency” is based on the prescriptive requirements. The Part 9 performance path is also based on these requirements. Both compliance options only address the energy used by the building envelope (space heating), the ventilation system and service water heating. If the HOT2000 software (or any other simulation tool that addresses the whole picture with renewable and plug loads, solar gains, etc) is locked in to assume everything else constant, the three criteria addressed in the NBC can be modeled. Whether or not renewable technologies can be traded-off against, say, the building envelope using the ERS system, is up to the AHJ. These concepts

will be explained in the flexible adoption framework document. I would anticipate that plug loads could not be traded off as they relate to the content of the building and not to the operation of the building itself.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Fillingham". The signature is fluid and cursive, with a horizontal line extending from the end.

Chris Fillingham,
Chair, Canadian Commission on Building and Fire Codes