FAQs for Energy Efficiency Design Summary Form

November 27, 2013

These Q & As are meant to offer guidance for building officials, builders and permit applicants when encountering interpretation issues with Building Code requirements under SB-12 and the use of the Energy Efficiency Design Summary (EEDS) form. If you have other interpretation questions you would like to see included here, please send them along to dpotter@newmarket.ca or tim.benedict@kitchener.ca.

Q: Is a signature and BCIN of the House Designer required at the bottom of the EEDS form?

A: Clause 3.2.4.7.(f) of Division C of the Building Code stipulates that a registered person who reviews and takes responsibility for design activities is to provide their name, identifying number and signature on any document submitted in support of an application for a permit. Since the EEDS form is not a prescribed document (unless required under Bylaw) a designer has the option of providing similar information that is sufficiently detailed on the plans or other forms to permit the design to be assessed for compliance. The benefit of using the EEDS form is to capture basic SB-12 information to minimize delays in permit processing and to improve efficiency with inspections. For guidance on qualification requirements for Energy Evaluators, please refer to the Ministry of Municipal Affairs & Housing’s Information Sheet 2011-2 which can be found on their website.

Q: How much of the EEDS form has to be completed?

A: That depends on which compliance option the applicant chooses in section B. If a prescriptive package is chosen, then sections A, B, C, D and F need to be completed. If a performance path is chosen, then all sections must be completed. If an ENERGY STAR® option is selected in section B, then the applicant only needs to complete sections A, B, E and F and attach the ENERGY STAR® BOP (Builder Option Package) printout.
Q: Under which option(s) is an air tightness (blower door/house depressurization) test required to achieve compliance with the Building Code?

A: An air tightness test is ONLY required to be submitted to the building official if the performance compliance option in 2.1.2. of SB-12 is used where the designer assumes an air tightness less than 2.5 ACH @ 50Pa in case of detached houses, or 3.0 ACH @ 50Pa in the case of attached townhouses (2.1.2.(6)). For the EnerGuide 80 or ENERGY STAR® performance option, proof of an air tightness test may be necessary to confirm that the house will meet the assumed air leakage at the design stage as part of the computer simulation.

Air tightness tests are NOT required for the following:

- Prescriptive options in SB-12 (tables) - the prescriptive options in SB-12 coupled with the prescriptive air barrier requirements are sufficient to comply with the code.

- The performance compliance option in SB-12 where the designer is assuming an air-leakage rate of 2.5 ACH @ 50Pa in the case of detached houses, or 3.0 ACH @ 50Pa in the case of attached townhouses (2.1.2.(5)).

Q: What should a municipality be looking for to confirm compliance of ENERGY STAR®, EnerGuide 80 or performance path options?

A: **ENERGY STAR®** – The Builder Option Package (BOP) for plans review and a BOP sign-off by an energy evaluator for construction conformance.

**EnerGuide 80** – Completion of EEDS form with involvement of an energy advisor for plans review and a sign-off form or report from the energy advisor including results from an air tightness test for construction conformance.

**Performance Path** – Completion of EEDS form and a sign-off form or report including results from the blower door test when used to verify air tightness less than 2.5 ACH @ 50Pa in the case of detached houses, or 3.0 ACH @ 50Pa in the case of attached townhouses (see 2.1.2.(6)) for construction conformance.

NOTE: While the involvement by a certified energy evaluator may be needed as a program requirement, it is not necessarily a requirement under the Building Code.
Q: In section C, what does “W, S & G % = “ mean?

A: This is the ratio, expressed as a percentage of the gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors against the gross area of wall and is used to determine the appropriate compliance path options in Article 2.1.1.1.

Q: For the purposes of calculating window area, what dimension is used: rough structural opening; window frame; or actual glass area?

A: Window area is based on the rough structural opening (studs, header and sill) because the gap between the window and the rough opening does not meet the performance levels of the wall assembly.

Q: For the purposes of calculating the percentage of window-to-wall area in a townhouse, is the party wall considered as part of the wall area?

A: Yes. For the purposes of calculating the percentage of window-to-wall area in a townhouse, the party wall between units is considered an exterior wall in determining the gross wall area of the home.

Q: When an applicant selects the ENERGY STAR® option, do they need to complete section D of the EEDS form in addition to attaching the BOP (Builder Option Package) summary?

A: No. While the EEDS form can be used as an excellent reference tool, the BOP summary contains all the relevant information captured in section D of the EEDS. Only the BOP is required.

Q: The new EEDS form has been revised to include the requirement for a BOP form for compliance verification under Section E. Do I still need to ensure that the house is labeled?

A: No, labelling is not a requirement under the Building Code. Labeling is a program requirement by the agencies responsible for administering ESNH in Ontario. The Building Code only requires compliance with the Technical Specifications which can be certified by an Energy Advisor on the BOP Form.
Q: If a builder elects to use a trade-off option, how should the EE form be completed?

A: The December 2011 and March 2013 amendments to SB-12 provided trade-off options for builders wishing to reduce insulation levels contained in the compliance package tables. The form is to be completed in the normal manner with the appropriate Table and package indicated in Section B. A line has been added on the new EEDS form to capture the specific trade-offs selected under 2.1.1.2 or 2.1.1.3.

Q: The BOP form makes reference to effective insulation levels whereas the EEDS form captures nominal levels. Can we get some consistency between the two forms?

A: A revised BOP form was released in February 2012 showing nominal values.

Q: Can the EEDS form be used for additions?

A: The revised EEDS form includes a location for noting the use of Table 2.1.1.10 when using the prescriptive option path for additions. Information for those areas as applicable can be inserted to support other documentation provided with the permit application.

Q: I have heard there are some differences between the CSA F280-M90 /HRAI Digest referenced in Part 6 of the Building Code and Heat loss/gain calculations provided by HOT2000. Should I be concerned?

A: There may be differences in heat loss / heat gain loads when comparing values from the CSA F280-M, HRAI licensed design schedule or the HOT2000 House report. The Building Code currently references a few good design practices such as CSA F280-M, the HRAI Digest, and the ASHRAE Fundamentals. HOT2000 is essentially based on standards listed under acceptable good design practice.

Q: Which version of ENERGY STAR for New Homes should we be using for compliance under the OBC?

A: The version that is referenced as compliant is known as “ENERGY STAR® for New Homes: Technical Specification – Ontario”. Natural Resources Canada has issued a new ESNH standard known as “ENERGY STAR for New Homes Standard Version 12 which is approximately 20% more energy efficient than the 2012 Ontario Building Code. Since the Building Code is a minimum standard, building to the higher energy efficiency levels under the ESNH Standard Version 12 would be deemed to be in compliance with the Regulations.
FAQs - EEDS
Page 5 of 6

Q: Drain water heat recovery (DWHR) units are now included as a trade-off provision in SB-12. Why is the efficiency rating important, how can this be confirmed and what information is important to know when inspecting them?

A: The allowable trade-offs in SB-12 differ depending on the efficiency rating of the DWHR unit. The unit must contain a label with the efficiency rating which is generally determined by the capacity of the DWHR unit. There are a number of different installation methods and it is important that a unit be properly specified for a particular application.

Energy Efficiency and Occupancy Permits

Q: Does compliance with the energy efficiency requirements using the prescriptive paths affect the issuance of an occupancy permit?

A: Yes. Compliance with the prescriptive energy provisions in the Building Code would require various building components and assemblies in a house to have certain characteristics. Accordingly, cladding, windows, insulation, vapour barriers, air barriers and heating systems must be complete or substantially complete. Substantial completion means the building is ready to be used for its intended purpose, although some work may remain to be done. Substantial completion includes completion of all life safety systems, a weather-tight envelope and adequate protection of building occupants from consequences of additional construction activities during final completion.

Under new requirements for occupancy of certain residential buildings including houses, semi-detached buildings and townhouses, Occupancy Permits have been required since January 1, 2012. Under these new provisions, occupancy can only be granted and an Occupancy Permit can only be issued when the house passes an occupancy inspection. The occupancy inspection requires among other things that the ‘building envelope’ including cladding, roofing, windows, doors, insulation, vapour barriers and air barriers are substantially complete. In addition, the occupancy inspection requires the heating systems to be ‘complete, operational and tested’.

This means that the prescriptive requirements for energy efficiency under the Building Code would need to be met before occupancy could be allowed and an Occupancy Permit issued.
Q: Does a house energy label or an air tightness test (Energuide 80, ENERGY STAR®) affect the issuance of an Occupancy Permit?

A: The requirements for an Occupancy Permit make no specific reference to the requirement for an air tightness test to confirm compliance with air tightness requirements under the various performance paths. The requirements of an Occupancy Permit as noted earlier includes the requirement that the building envelope be substantially complete and the heating system is complete, operational and tested. Substantial completion of the building envelope could mean that the building envelope is substantially in compliance with the required air tightness test results under the performance path. However it would not require full compliance. Some additional work may be required to be in full compliance. Moreover, the provisions for Occupancy Permits do not in fact include a requirement that the building envelope be tested for the purposes of issuing an Occupancy Permit.

An energy label might be a useful mechanism to confirm performance-based energy efficiency compliance to the local authority, but the lack of a label alone does not prevent issuance of an Occupancy Permit. The Building Code does not regulate new home labelling.

The above FAQ’s were developed by an industry stakeholder group, including the Ontario Home Builders Association, Large Municipal Chief Building Officials and the Ontario Building Officials Association. The group continues to monitor and transfer information that will increase the understanding and compliance with the new Code requirements on Energy Efficiency.