Ontario Building Officials Association
Building Knowledge/Growing Communities

FAQs for Energy Efficiency Design Summary Form

May 8, 2012

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: Are signatures by the BCIN architectural and/or mechanical designer required at the bottom of the EEDS form?

A: No. The relevant designer information is picked up elsewhere in the prescribed provincial permit application form, only the name of each designer is required at the bottom of section F of the form for cross-referencing purposes. 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 at www.mah.gov.on.ca.

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 a blower door test required to achieve compliance with the Building Code?

A: A blower door house depressurization 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 a blower door 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.

Blower door 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 label or 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 a blower door 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: Is the presence of an energy label required for deemed acceptance of performance of EnerGuide80 or ENERGY STAR®?

A: While a label is one means of confirmation of compliance with the ENERGY STAR® or EnerGuide programs, in the absence of a label an applicant who chooses one of these options may submit a sign-off form or report to the building official from the energy evaluator/advisor for the home as proof of compliance. ENERGY STAR® labelling occurs at the time of the energy evaluator's final performance test of the home and may be more accessible for verification. If there is a problem producing an ENERGY STAR® label in the field in time to satisfy the building official, as noted above the energy evaluator's final test results may be used for confirmation in place of a label.

Q: In section C, what does "%Windows+__%" mean?

A: To maximize the use of space on the form, Percentage of Windows+Skylights+Glass Doors was shortened to %Windows+. This will likely be corrected for clarity in future revisions of the EEDS form. For now, it is the field in which to place the window-to-wall percentage result.

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: In the second last field of section E, what response is required for the question: "The house will be labelled on completion by__"

A: The certified energy evaluator's name or the program provider (not the anticipated date of labelling as might be implied. This will be reworded in future editions of the EEDS form).

Q: If a builder elects to use the RSI 3.52 wall insulation option, how should the EE form be completed?

A: The December 2011 amendment to SB-12 provided trade-off options for builders wishing to use RSI 3.52 wall insulation, in lieu of the higher insulation levels contained in the compliance package tables. The form is completed in the normal manner in these cases. The Table and package is indicated in Section B, and the building specifications in Section D must incorporate the upgrade selected by the builder according to the options provided in 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 both effective and nominal values.

Q: Can the EEDS form be used for additions?

A: The form is intended for new builds, however it could be used to capture relevant information contained in the compliance packages in article 2.1.1.2, or 2.1.1.3 or the thermal performance requirements in Table 2.1.1.10 for additions.

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 blower door test (Energuide 80, ENERGY STAR®) affect the issuance of an Occupancy Permit?

A: 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 blower door 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. The requirements for an Occupancy Permit also make no specific reference to the requirement for a blower door test to confirm compliance with air tightness requirements under the various performance paths.

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.

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