Whole Building Energy Modelling Services

Summary
This Practice Bulletin has been jointly approved and published by Engineers Geoscientists Manitoba and the Manitoba Association of Architects. The Manitoba Energy Code for Buildings legally came into force in December, 2014; and the two regulatory bodies have now set out minimum qualifications and professional practice, for those who wish to provide services on projects which are located in Manitoba, that involve whole Building Energy Modelling.

SCOPE AND PURPOSE

This Practice Bulletin/Note applies to architects and engineers who are providing, procuring, contributing, and/or coordinating Building Energy Modelling services on buildings of all types and sizes, regardless of the requirements for professional design and review within Building Codes. It covers minimum qualifications, professional practice, and compliance for projects that involve whole Building Energy Modelling.

MINIMUM QUALIFICATIONS

Building Energy Modelling services must be provided by a Qualified Modeller. Qualified Modellers who provide modelling services must be either:
1. an architect or engineer, or
2. be under the direct supervision of an architect or engineer acting as an Energy Modelling Supervisor (EMS).

Building Energy Modelling and analysis is a multidisciplinary field that requires specific education, training and experience associated with architectural, mechanical, and electrical systems. Architects and engineers shall undertake and accept responsibility for professional assignments only when qualified by training or experience.

Architects and engineers are required to adhere to their respective Codes of Ethics, which do not apply to Qualified Modellers who are not architects or engineers. However, if an architect or engineer acting as an EMS is relying on the work of a Qualified Modeller, reasonable steps must be taken by the EMS to familiarize the Qualified Modeller with the relevant ethical standards of the two professions.

Appropriate qualifications for modellers and their supervisors include core competencies such as theoretical and technical knowledge, building industry knowledge and experience, as well as professional development. To produce a representative model, these competencies must be effectively translated into practice. Both the Qualified Modeller and the EMS must understand the factors that may affect a model.

The core competencies of both the Qualified Modeller and the EMS includes:
- Education (Theoretical and Technical Knowledge)
  - Materials knowledge
  - Building physics
  - Building systems
  - Building modelling software
- Building Industry, Code and Standards
  - Building code
  - Construction practices
- Experience
  - Application of building science principles and building systems
- Professional Development
  - Maintaining current knowledge in their area of practice

COMPLIANCE
Although the Authority Having Jurisdiction (AHJ) is responsible for enforcing the requirements of the Building Code and any additional energy requirements, a professional's responsibility is the same regardless of the level of enforcement by the AHJ.

If the Qualified Modeller is an architect or engineer, they must seal all Energy Modelling Reports. If the Qualified Modeller is not an architect or engineer an EMS must directly supervise and seal all Energy Modelling Reports.
In the case of subcontracting, Qualified Modellers are to inform the EMS of all subcontracts and their scope.
Subcontractors must be Qualified Modellers and are to be directly supervised by the EMS.

CONCLUSION
Building Energy Modelling Services must be provided by a Qualified Modeller who has the appropriate knowledge and experience. Qualified Modellers must be an engineer or architect, or directly supervised by an engineer or architect acting as the Energy Modelling Supervisor. All Energy Modelling Reports must be sealed by the Qualified Modeller, or by the Energy Modelling Supervisor.