



Professional Practice Guidelines Whole Building Modelling Services

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2018 BCBEC Conference • Vancouver

26 October 2018

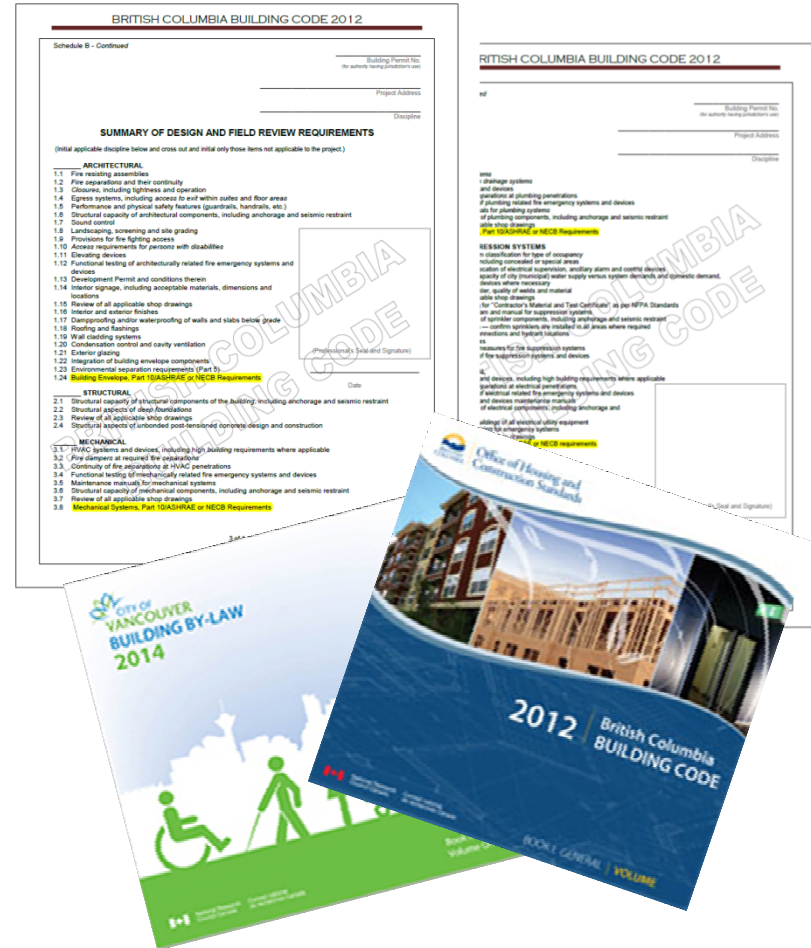


Background

Professional Practice Guidelines
Whole Building Modelling Services

Industry Issues & Concerns

- Code compliance responsibility
Registered Professional of Record
Architect? M.E.? Other?
- Documentation
- Quality control



Professional Whole Building Modelling: State of the Industry

Prior to Guidelines...

- Qualifications / experience – nothing formalized for BC Code
 - CaGBC approved modeller (LEED)
 - BEMP (ASHRAE), BESA (AEE)
- Not a well established field (and is still evolving)
- Professional status unnecessary

Who Cares?

Stakeholders

- Steering Committee
- Authors
- Industry Reviewers

Authorities Having Jurisdiction (AHJs)

- Province of B.C.
- Municipalities
- Canadian Green Building Council (LEED)

Clients



ENGINEERS &
GEOSCIENTISTS
BRITISH COLUMBIA



Overview

Professional Practice Guidelines
Whole Building Modelling Services

Purpose – *Professional Practice Standardization*

Whole Building Energy Performance Modelling

For Professional Engineers and Architects

- Obligations and scope of services
- Roles and responsibilities
- Quality assurance

Modeller Qualifications

- Supervisory qualifications included

Does NOT provide instructions or advice on how to do energy modelling

Applicability

Tools

- Simulation (hourly / sub-hourly)
- Simpler modelling (bin, degree-day)

Optimization & Forecasting

Compliance

Existing Buildings

Incentive Programs and Certification/Rating Systems



Minimum Qualifications

Professional Registration – when is it required?

Qualified Modeller (QM)

- Education
- Industry experience
- Codes and standards
- Professional development
- Building modelling software proficiency

Energy Modelling Supervisor (EMS)

- Same as QM, except for software proficiency



Professional Practice

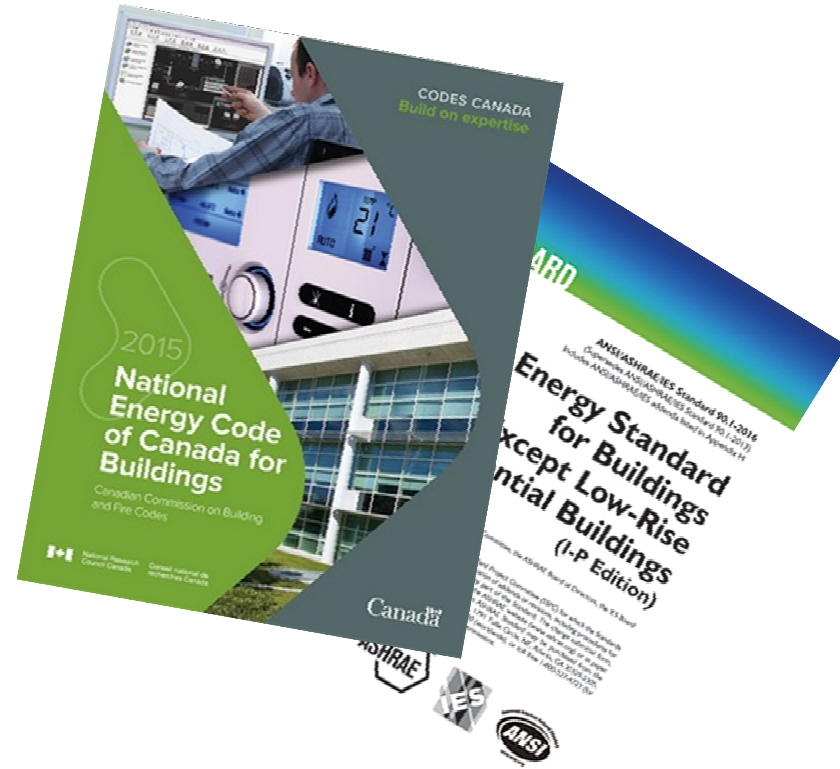
Services Applied to Project Phases

- Pre-design, schematic design, design development, etc.
- Parallel to ASHRAE Standard 209

Coordination / Supervision with QM / EMS

Energy Statements on Drawings

- Code/rating system and/or standard/program
- Applicable performance targets
- Climate zone and/or weather data
- Compliance method(s), if applicable



Professional Practice

Energy Modelling Report

Signed and Sealed

- By responsible engineer or architect – Qualified Modeller or EMS



Project Overview

Simulation Summary and Key Characteristics

Utility Rates

- Greenhouse gas and/or site-to-source factors (not listed in Guidelines)

Misc. Warnings/Errors, Supplementary Materials

Roles & Responsibilities

Project Team Members

- Owner / Client
- Coordinator
- Design Team (Architect, M.E, E.E.)
- Qualified Modeller / Energy Modelling Supervisor (EMS)

Distinguished by Project Phase and Type of Service

- Optimization & Forecasting
- Compliance
- Existing Buildings & Facilities Management
- Incentive Programs and Certification / Rating Systems

Quality Assurance

Peer Review

- In accordance with Code of Ethics

Direct Supervision

- EMS required if QM is not a registered professional
- Involved through entire process

Documentation Retention

- *Energy Modelling Report*



– Acknowledgements –

- Steering Committee: Harshan Radhakrishnan, Engineers and Geoscientists BC; Maura Gatensby, AIBC; Toby Lau, BC Hydro; M. Greg McCall, City of Vancouver
- Co-Authors: Ali Nazari, Integral Group; Brittany Coughlin, RDH Building Science; Paul Kernan, RDH Building Science
- Formal Review and Stakeholder/Industry Groups

THANK YOU!
