

Commercial Energy Services Network
COMNET

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Charles Eley, FAIA, PE

Architectural Energy Corporation

November 19, 2009

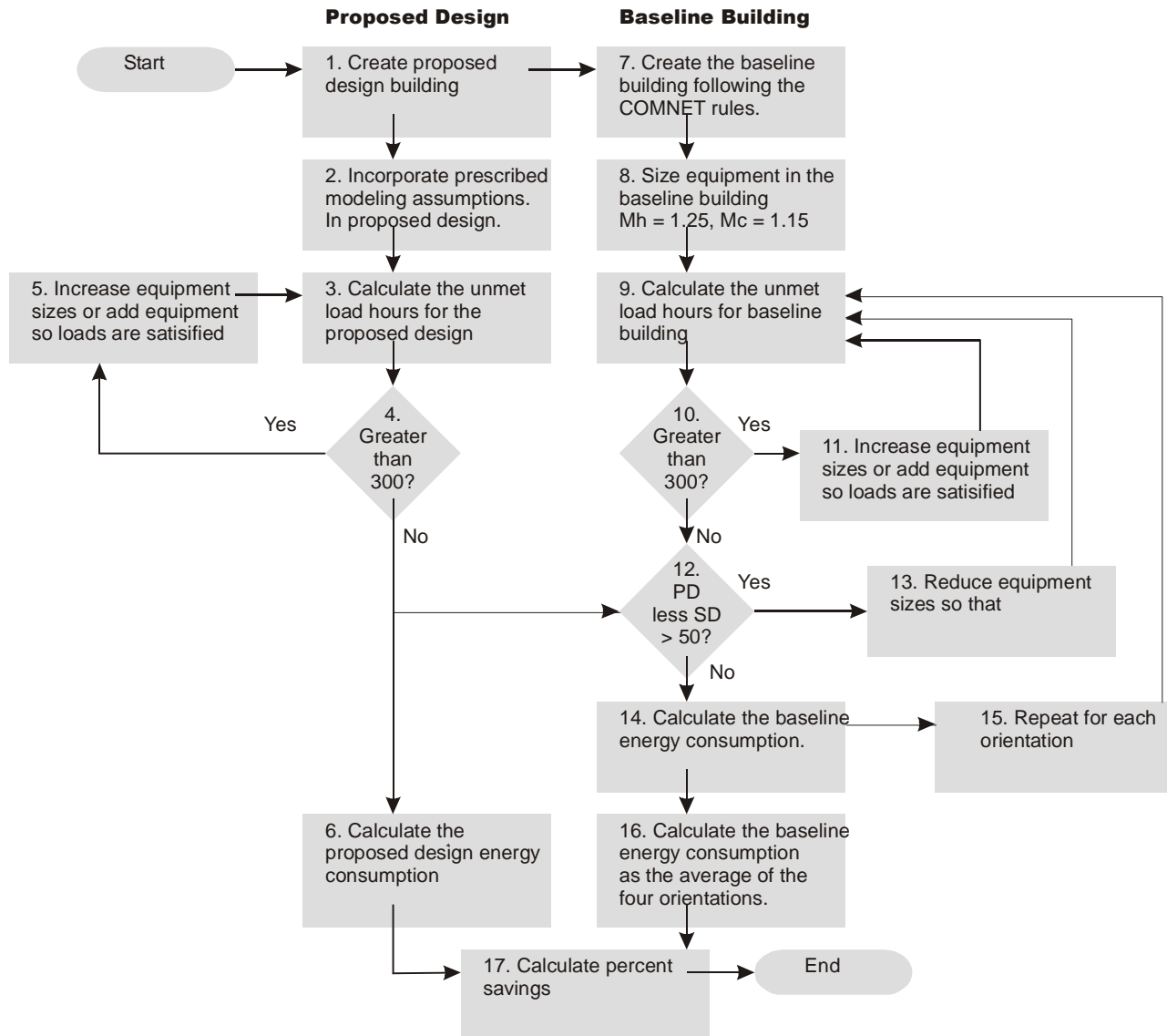
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Appendices

- A – Building Descriptors
- B – Modeling Assumptions and Defaults
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Chapter 2 – General Modeling Procedures



Chapter 3 – Software Requirements

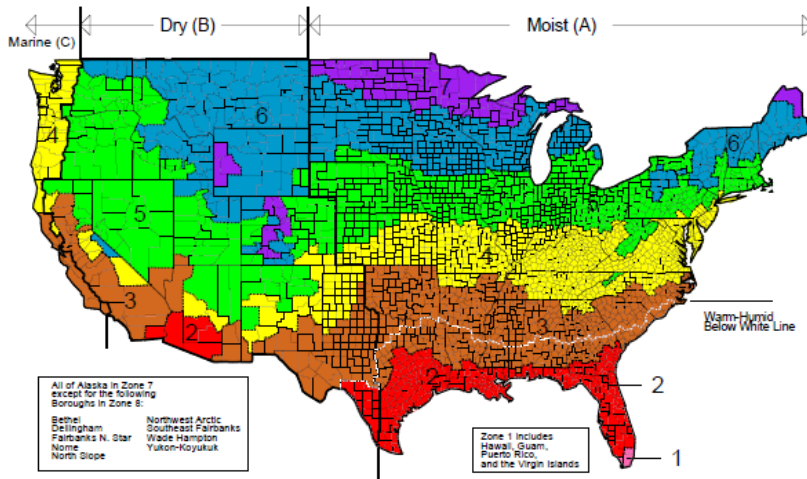
- ASHRAE Standard 140-2007 with acceptance criteria added
- Supplemental tests to verify that prescribed or default modeling assumptions are correctly applied and that the baseline building is correctly created.

Chapter 4 – Content and Format of Standard Reports

- XML format developed for efficient data exchange
- Standard Reports to be developed from
 - Building Summary
 - Energy Measures
 - Energy Results
 - Representations

Chapter 5 – Energy Costs and Currency

- Based on California approach to TDV
- Uses DOE/ASHRAE climate zones
- Built from wholesale energy prices
- Default time-of-use energy tariffs for 16 climate zones

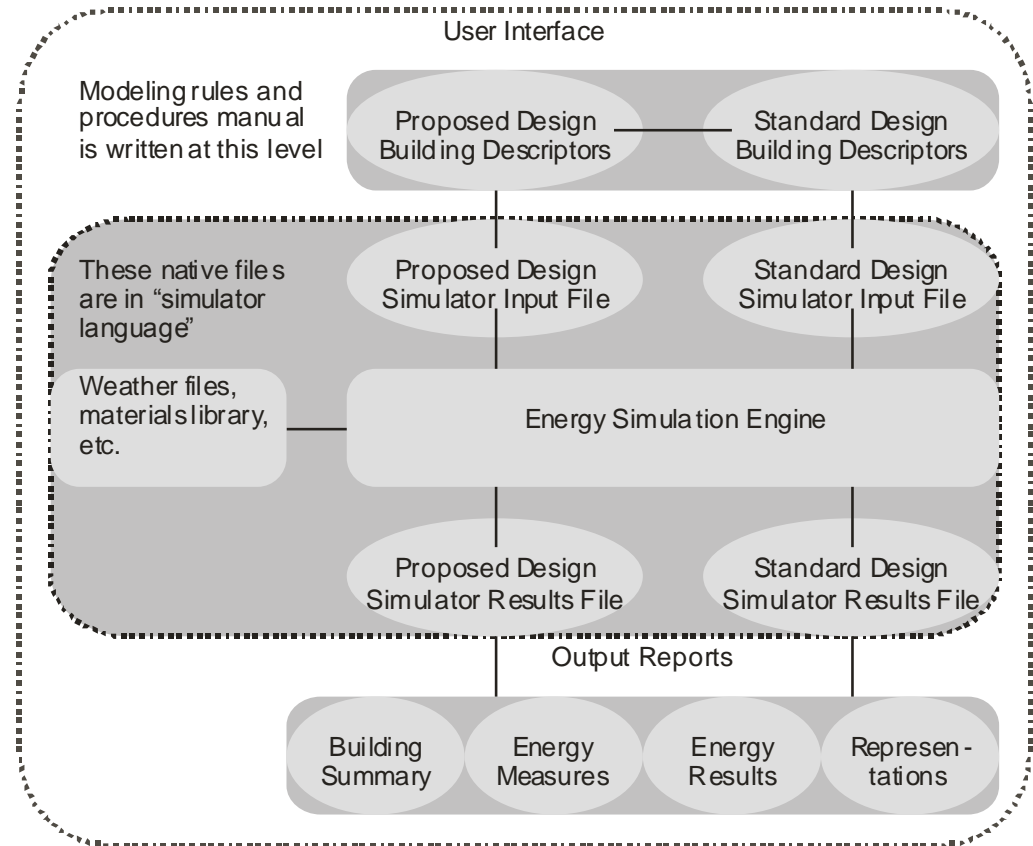


Example for Zone 4A

Fuel	Seasons	Day Types	Time Periods	Hours in TOU Period (1-24)	Present Value of Energy Cost	
Electricity (\$/kWh)	Summer (June-August)	Weekdays	Peak	12-20	\$3.41	
			Mid-Peak	8-11, 21-23	\$1.02	
			Off-Peak	24-7	\$0.83	
		Weekends/Holidays	Off-Peak	1-24	\$0.83	
		Fall (September-November)	Weekdays	Peak	NA	NA
			Mid-Peak	7-24	\$0.88	
	Off-Peak		1-6	\$0.72		
	Weekends/Holidays	Off-Peak	1-24	\$0.72		
	Winter (December-February)	Weekdays	Peak	NA	NA	
			Mid-Peak	7-20	\$0.96	
			Off-Peak	21-6	\$0.83	
		Weekends/Holidays	Off-Peak	1-24	\$0.83	
Spring (March-May)		Weekdays	Peak	NA	NA	
			Mid-Peak	8-22	\$0.95	
	Off-Peak		23-7	\$0.77		
Weekends/Holidays	Off-Peak	1-24	\$0.77			
Gas (\$/therm)	Low Demand Season (April-October)	All	All	1-24	\$9.07	
	High Demand Season (November-March)	All	All	1-24	\$11.99	
Steam (\$/Mlb)	Low Demand Season (April-October)	All	All	1-24	\$130.05	
	High Demand Season (November-March)	All	All	1-24	\$171.95	
Chilled Water (\$/ton-hr)	Low Demand Season (April-October)	All	All	1-24	\$1.12	
	High Demand Season (November-March)	All	All	1-24	\$1.48	

Chapter 6 – Building Descriptors Reference

- In series with the Performance Rating Method (90.1 Appendix G)
- Establishes baseline and credits for:
 - Commercial refrigeration
 - Plug loads
 - Swimming pools
 - On-site power generation
 - Exterior lighting
 - More . . .
- Establishes baseline (no credit) for vertical transportation and other components



Chapter 7 – Modeling Tips

▪ **Challenging Building Types**

- Laboratories
- Health Care
- Data Centers

▪ **Design Features**

- Automatically controlled window shades
- Chilled Beams
- Dedicated Outside Air Systems (DOAS)
- Displacement ventilation

▪ **Design Features** (continued)

- Gas engine driven heat pumps
- Ground source heat pumps
- Ice Bear type thermal storage
- Natural Ventilation
- Hybrid or Mixed Mode
- No AC
- Radiant Heating or Cooling
- Switchable glazing
- UFAD
- Variable flow refrigerant charge

COMNET Contact

Mark Cherniack

COMNET Program Manager

New Buildings Institute

PO Box 2349

White Salmon, WA 98672

www.imt.org/COMNET

www.newbuildings.org

www.advancedbuildings.net

www.gettingto50.org

509-493-4468 x17 (Mon/Wed)

541-478-0117 (Tues/Thurs-Fri)

markc@newbuildings.org