

New Construction Program

Whole Building Track Baseline

FACT SHEET

OVERVIEW

This document provides the design parameters that define building performance for calculating energy impacts and financial incentives in the New Construction Program. “Applicable” Wisconsin Energy Code refers to the version of the state building code under which the project falls.

Common Requirements:

The baseline building performance and proposed alternative building performance must be based on equivalent values for:

- Gross floor area
- Occupant operating schedule, occupant behavior and occupant density
- Outdoor climate conditions
- Space temperature set-points and setbacks/ setups except for those systems serving hotel/motel guest rooms
- Heating, cooling and ventilating equipment availability schedules
- Lighting on/off schedules except for those systems serving hotel/motel guest rooms
- External shading from landscaping or adjacent buildings
- Ongoing maintenance procedures
- Space function
- Heat gain and operating schedule for internal equipment unless alternative equipment has been accepted by the program as an efficiency measure
- The time period and environmental conditions during which peak electrical demand (kW) is calculated. The peak demand is the average demand over the period that begins at 1:00 PM and ends at 4:00 PM on weekdays between June 1 and August 31.

Baseline Building Performance:

The performance of baseline buildings is set at the applicable Wisconsin Code for Energy Conservation (Comm 63, “Wisconsin Energy Code”), with the exceptions noted below where the baseline has been deemed to be more efficient than the applicable Wisconsin Energy Code.

Exceptions to Applicable Wisconsin Energy Code as Baseline Building Performance:

- The performance baseline for government buildings is the program baseline, or existing design and construction guidelines required by law, whichever is more stringent.
- The baseline for energy using equipment is the applicable Wisconsin Energy Code, or existing required local, state and federal equipment efficiency standards, whichever is more stringent.
- With regard to baseline exceptions referenced from other sources, the program does not allow any baseline value for any measure to be less stringent than the applicable Wisconsin Energy Code.
- Refer to Table 1 for the maximum baseline values for whole building area Interior Lighting Power Density.
- HVAC equipment performance shall meet the minimum efficiency values described by International Energy Conservation Code® (IECC) 2006 Section 503.2.3.
- Fenestration shall meet the performance values described by International Energy Conservation Code® (IECC) 2006 Table 502.3.
- Single phase, electric air-cooled air-conditioners and heat pumps less than 65,000 Btu/h shall meet the minimum efficiencies described by the National Appliance Energy Conservation Act (NAECA): air conditioning equipment must be rated with a minimum Seasonal Energy Efficiency Ratio (SEER) of 13.0, and heat pumps must also be rated with a minimum Heating Seasonal Performance Factor (HSPF) of 7.7.
- Distribution transformers shall meet the efficiency levels required by the Energy Policy Act of 2005 (EPACT).
- Building and equipment control strategies deemed to be baseline practices, when employed, are provided in Table 2.

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Table 1 – Baseline Values for Interior Lighting Power Density

Whole Building Area Type	Baseline Watts/SF ¹		Whole Building Area Type	Baseline Watts/SF ¹	
	Old Code	New Code		Old Code	New Code
Automotive Facility	1.6	0.9	Office	1.4	1.0
Banking/Financial Institutions ²	1.7	N/A	Parking Garage	0.3	0.3
Convention/Conference Center	1.6	1.2	Penitentiary/Correctional	1.4	1.0
Courthouse	1.5	1.2	Police and Fire Stations	1.5	1.0
Dining: Bar Lounge/Leisure	1.8	1.3	Post Office	1.7	1.1
Dining: Cafeteria/Fast Food	1.8	1.4	Religious Buildings	1.8	1.3
Dining: Family	1.8	1.6	Retail ⁴ : Big Box ⁵	1.6	1.5
Dormitory	1.4	1.0	Retail: Grocery	1.8	1.5
Exercise Center	1.6	1.0	Retail: Other	1.8	1.5
Gymnasium	1.6	1.1	School: Pre-School-12	1.6	1.2
Healthcare Clinic	1.8	1.0	School: University/College	1.6	1.2
Hospital	1.8	1.2	Sports Arena	1.6	1.1
Hotel/Motel	1.6	1.0	Theaters	1.5	1.2
Library	1.6	1.3	Town Hall	1.5	1.1
Manufacturing – High Bay ³	2.0	1.3	Transportation	1.4	1.0
Manufacturing – Low Bay	1.6	1.3	Warehouse	1.0	0.8
Multi-family	1.2	0.7	Workshop	1.6	1.4
Museum	1.8	1.1			

¹ “Old code” refers to the building code through 2/29/2008, “New Code” refers to the building code on 3/1/2008 and later.
² If project falls under new building code, use another area type than Banking/Financial Institutions.
³ High bay lighting has a fixture height of greater than 30 feet above finished floor.
⁴ Maximum allowance for additional lighting in all retail (decorative and display) is 0.8 watts per square foot.
⁵ Retail big box has a merchandising floor area greater than 20,000 square feet and a fixture height greater than 14 feet above finished floor.

Table 2 – Building and Equipment Control Strategies Deemed as Baseline (when employed)

Control Strategies	Deemed Baseline Practices
Lighting occupancy sensors	Baseline practice in all spaces except storage areas in manufacturing and warehousing building types and hotel/motel guest rooms.
Variable speed drive for HVAC system fans and pumps	No financial incentives will be provided for energy savings and demand impacts claimed for variable speed drive on motors 30 hp and larger. In addition, for projects falling under the “new” building code on or after 3/1/2008, variable speed drives on fan systems must be 10 hp or less.

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