



**2021 SEC Section C406 C407 C408 C409 Draft Amendments**

- **Red Text:** Introductory comment for each proposed change
- **Yellow highlight:** New proposals for this code
- **Aqua highlight:** Existing 2018 Seattle amendments transferred to 2021 code (Typically, existing Seattle amendments carried forward are *not* shown in this document.)

**Table C406.1 Energy Credits.** Increase Seattle credit requirements by 10% across the board to account for more stringent Seattle code. (2018 Seattle code requires 8 credits vs. WA code 6 credits, 33% higher.)

**NOTE:** Group M requirement still under discussion. PNNL is looking at revising the base code, but for now we’ve just matched the “all other” category for required credits.

**Table C406.1**  
**Energy Measure Credit Requirements**

Required Credits for Projects	Occupancy Group						
	Section	Group R-1	Group R-2	Group B	Group E	Group M	All Other
New building energy efficiency credit requirement	C406.2	<del>((54))</del> 59	<del>((41))</del> 45	<del>((42))</del> 46	<del>((48))</del> 53	<del>((74))</del> 54	<del>((49))</del> 54
Building additions energy efficiency credit requirement	C406.2	<del>((27))</del> 30	<del>((20))</del> 22	<del>((21))</del> 23	<del>((23))</del> 25	<del>((36))</del> 23	<del>((21))</del> 23
New building load management credit requirement	C406.3	12	15	27	15	13	26

**Table C406.2 Efficiency Measure Credits.** Eliminate enhanced commercial kitchen equipment credit (#27) since this is already required by Seattle code.

(Table C406.2 not shown here.)

**Table C407.2 Electrical permit issue date.** Proposal to let the electrical permit come through after permit issuance but before start of construction.

**C407.2 Mandatory requirements.** Compliance with ~~((this))~~ Section C407 also requires compliance with those sections shown in Table C407.2. The building permit application for projects utilizing this method shall include in one submittal all building and mechanical drawings and all information necessary to

verify that the building envelope and mechanical design for the project corresponds with the annual energy analysis. If credit is proposed to be taken for lighting energy savings, then an electrical permit application shall also be submitted and approved prior to the **((issuance of the building permit)) start of building construction**. If credit is proposed to be taken for energy savings from other components, then the corresponding permit application (e.g., plumbing, boiler, etc.) shall also be submitted and approved prior to the building permit application. Otherwise, components of the project that would not be approved as part of a building permit application shall be modeled in the baseline in accordance with ANSI/ASHRAE/IESNA 90.1 Appendix G and in the proposed model in accordance with the requirements of the ((Washington State) Seattle Energy Code.

**Tables C407.3(2) BPFs & C407.3(3) Site Energy Targets.** This sets those values 10% (provisionally) below the WA code, in recognition of Seattle’s more stringent prescriptive code, same as the current 2018 code.

**Table C407.3(2)  
Building Performance Factors (BPF) to be used for  
Compliance with Section C407.3**

<b>Building Area Type</b>	<b>Building Performance Factor</b>	<b>Seattle 2018 code BPFs (10% below WA code)</b>	<b>Seattle 2021 code BPFs</b>
Multifamily	0.55	<del>((0.58))</del> <u>0.52</u>	<del>((0.55))</del> <u>0.50</u>
Health care/hospital	0.71	<del>((0.54))</del> <u>0.49</u>	<del>((0.71))</del> <u>0.64</u>
Hotel/motel	0.53	<del>((0.64))</del> <u>0.58</u>	<del>((0.53))</del> <u>0.48</u>
Office	0.45	<del>((0.56))</del> <u>0.51</u>	<del>((0.45))</del> <u>0.41</u>
Restaurant	0.35	<del>((0.70))</del> <u>0.63</u>	<del>((0.35))</del> <u>0.32</u>
Retail	0.41	<del>((0.47))</del> <u>0.43</u>	<del>((0.41))</del> <u>0.37</u>
School	0.36	<del>((0.36))</del> <u>0.32</u>	<del>((0.36))</del> <u>0.32</u>
Warehouse	0.19	<del>((0.48))</del> <u>0.43</u>	<del>((0.19))</del> <u>0.17</u>
All others	0.44	<del>((0.54))</del> <u>0.49</u>	<del>((0.44))</del> <u>0.40</u>

**Table C407.3(3)  
Site Energy Performance Targets to be used for  
Compliance with Section C407.3**

<b>Building Area Type</b>	<b>Site Energy Performance Targets</b>	<b>Seattle Proposal (10% below WA code)</b>
Multifamily	0.59	<u>0.53</u>
Health care/hospital	0.72	<u>0.65</u>
Hotel/motel	0.62	<u>0.56</u>
Office	0.58	<u>0.52</u>

Building Area Type	Site Energy Performance Targets	Seattle Proposal (10% below WA code)
Restaurant	0.59	0.53
Retail	0.46	0.42
School	0.52	0.47
Warehouse	0.29	0.26
All others	0.55	0.50

**C407.3.1 UA backstop still requires 20% of glazing area to be high performance.** This prohibits compromise of the triple glazing initiative through use of UA calculation. Seattle amendment sentence highlighted in aqua is stricken because each of the referenced sections begins with “All of the following shall...”

**C407.3.1 Limits on substandard building envelopes.** The Proposed Total UA of the proposed building shall be no more than ~~((20 10))~~ percent higher than the Allowed Total UA as defined in Section C402.1.5. ~~Where either Section C402.4.1.1.1 or C402.4.1.1.2 is used to establish the maximum allowable fenestration area for compliance with this section, all of the requirements of the selected section shall be met.~~ The requirement in Section C402.4 for 20 percent of fenestration to be high-performance shall be maintained and that fenestration is not permitted to have a U-factor higher than permitted by Section C402.4.

**C407.3.4.1 Unregulated loads.** Provides system for approval and posting of claimed energy savings from unregulated loads, and pre-approves three residential equipment types.

**C407.3.4.1 Approved unregulated load types.** Unregulated load types for which reductions of energy use or carbon emissions are claimed shall be one of those listed in Table C407.3.4.1 or shall be approved and publicly listed by SDCI. Requests for approval of such load types shall include the identification with predicted energy use and carbon emissions of the baseline case in addition to the identification with predicted energy use and carbon emissions of the proposed alternate. Listings for specific load types may be withdrawn and made unavailable for subsequent permit applications in cases by SDCI where it is considered that the unregulated load type listed has become accepted conventional practice.

<b>Table C407.3.4.1 Approved Unregulated Load Types</b>		
In compliance with the requirements of section	Predicted energy and carbon emission reductions (%)	
	Group R-1	Group R-2
C406.2.15 Enhanced residential kitchen equipment	1.2	1.9
C406.2.16 Enhanced residential laundry equipment	N/A	0.6
C406.2.17 Heat pump clothes dryers	0.6	0.6

**C408.1 language fix. Fix to help exception 2 make sense grammatically.**

**C408.1 General.** A building commissioning process led by a *certified commissioning professional* and functional testing requirements shall be completed for mechanical systems in Section C403; service water heating systems in Section C404; controlled receptacle and lighting control systems in Section C405; equipment, appliances and systems installed to comply with Sections C406 or C407; energy metering in Section C409; and refrigeration systems in Section C410.

EXCEPTION: Buildings, or portions thereof, which are exempt from Sections C408.2 through C408.7 may be excluded from the commissioning process.

1. Mechanical systems that are not required to comply with Section C403.3.5 are exempt from the commissioning process where the installed total mechanical equipment capacity is less than 180,000 Btu/h (15 tons) cooling capacity and less than 240,000 Btu/h (20 tons) heating capacity and energy recovery ventilation (ERV) equipment is less than 300 cfm capacity.

2. Service water heating systems are exempt from the commissioning process in buildings where the largest service water heating system capacity is less than 200,000 Btu/h and where there are ((any)) none of the following:

2.1. ((No)) pools or permanent spas.

2.2. ((No)) solar thermal water heating.

2.3. ((No)) recirculation pumps.

2.4. ((No)) heat pump water heaters, except fully-packaged for individual residential dwelling unit use.

3. Lighting control systems are exempt from the commissioning process in buildings where both the total installed lighting load is less than 10 kW and the lighting load controlled by occupancy sensors or automatic daylighting controls is less than 5 kW.

4. Refrigeration systems are exempt from the commissioning process in buildings if they are limited to self-contained units.

**C408.1.2 Commissioning Plan submittal timing. (See item 4 below) This allows the Cx Plan to be submitted after permit issuance, but before first mechanical inspection. Staff request.**

**C408.1.2 Commissioning plan.** A commissioning plan shall be developed by the project's *certified commissioning professional* and shall outline the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.

1. A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities, systems testing and balancing, functional performance testing, and verification of the building documentation requirements in Section C103.6.

2. Roles and responsibilities of the commissioning team, including the name and statement of qualifications of the *certified commissioning professional*.

3. A listing of the specific equipment, appliances or systems to be tested and a description of the tests to be performed.

**4. This plan shall be submitted to SDCI prior to the first mechanical inspection.**

**C408.1.2 Commissioning Report submittal timing.** (See item 6 below) This clarifies that the Cx Report is submitted prior to the final inspection. Staff request.

**C408.1.3 Commissioning report.** A commissioning report shall be completed and certified by the *certified commissioning professional* and delivered to the building owner or owner's authorized agent. The report shall be organized with mechanical, service water heating, controlled receptacle and lighting control systems, energy metering, and refrigeration findings in separate sections to allow independent review. The report shall record the activities and results of the commissioning process and be developed from the final commissioning plan with all of its attached appendices. The report shall include:

1. Results of functional performance tests.
2. Disposition of deficiencies found during testing, including details of corrective measures used or proposed.
3. Functional performance test procedures used during the commissioning process including measurable criteria for test acceptance, provided herein for repeatability.
4. Commissioning plan.
5. Testing, adjusting and balancing report.

**6. This report shall be submitted to SDCI prior to the final inspection.**

**C408.1.4.2 Commissioning Completion.** We will have a revised procedure to ensure that commissioning work gets completed, even if that work extends past Certificate of Occupancy.

**(Revised language still under SDCI review.)**

**C408.4.2 High-end trim.** Rules for setting high-end trim, from 2024 IECC proposal CEPI-156, plus definition.

**C408.4.2 High-end trim.** Where lighting controls are configured for *high-end trims*, verify the following:

1. That *high-end trim* has been set.

2. That lighting controls with *ready access* for users cannot increase the lighting power above the maximum level established by the *high-end trim* controls.

**HIGH-END TRIM.** A lighting control setting which limits the maximum power to individual luminaires or groups of luminaires in a space.

#### **C409.3.1 Submeter garage fan energy.**

**C409.3.1.1 Parking facility fan energy.** Ventilation fan energy and any other HVAC energy use within parking facilities larger than 3000 square feet shall be submetered separately.

**Exception:** Where the total MCA of equipment served equates to less than 10 kVA.

#### **C409.3.3.1 Submeter garage lighting.**

**C409.3.3 Lighting system energy use.** This category shall include all energy used by interior and exterior lighting, including lighting in parking structures and lots, but not including plug-in task lighting.

**C409.3.3.1 Parking facility lighting energy.** Lighting energy use within parking facilities larger than 3000 square feet shall be submetered separately.

#### **C409.3.5 Exempt outlets in corridors and enclosed stairways from submetering.**

**C409.3.5 Plug load system energy use.** This category shall include all energy used by appliances, computers, plug-in task lighting, and other equipment or equipment covered by other end-use metering categories listed in Section C409.3. In a building where the main service is 480/277 volt, each 208/120 volt panel is permitted to be assumed to serve only plug load for the purpose of Section C409, unless it serves nonresidential refrigeration or cooking equipment.

##### **Exceptions:**

1. Where the total connected load of all plug load circuits is less than 50 kVA, end-use metering is not required.
2. Electric receptacles located in fire-rated or smoke-rated corridors, enclosed stairwells, or egress passageways are not required to be metered.