

# Lighting, Motor and Electrical Requirements List, pg 1 of 13

2021 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 -- Administered by ©2025 NEEA, All rights reserved

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Project:

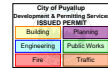
PPSB: Puyallup Public Safety Building - 2021 WSEC

1015 39th Ave SE

100

Puyallup, WA 98374

PRCTI20250324



Date: 2025-02-27

| Applies                           | Code Section           | Component   | Compliance Information Required In Permit Documentation   | Location in Documents                    | Building Department Notes |
|-----------------------------------|------------------------|---|---|--|---------------------------|
| <b>LIGHTING SCOPE</b>             |                        |   |   |  |                           |
|                                   | C103.1                 | Construction documents - General                                    | For a shell & core or tenant space (first build-out) project, indicate if there is no lighting scope included in the project.   |  |                           |
| NA                                | C103.1                 | Construction documents - General                                    | For an alteration project, indicate if there is no lighting scope included in the project.  |  |                           |
| NA                                | C405.1                 | Lighting in sleeping units  | Indicate general compliance path for permanently installed luminaires in sleeping units - vacancy controls & luminaire efficacy; or lighting power allowance.   |  |                           |
| <b>INTERIOR LIGHTING CONTROLS</b> |                        |   |   |  |                           |
| YES                               | C405.2                 | Interior lighting controls, general                                 | For all interior lighting systems, indicate lighting control method (general lighting controls requirements or luminaire level lighting controls) on plans for all spaces and lighting zone(s) served; indicate exceptions applied to eligible spaces and light | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |                           |
| YES                               | C405.2.3               | Manual controls   | Indicate on plans the method of manual lighting control, location of manual control device and the area or specific application it serves.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |                           |
| YES                               | C405.2.4<br>C405.2.4.1 | Manual interior light reduction controls                            | For general lighting not controlled by occupancy sensors, indicate on plans which method of manual 50% lighting load reduction is provided, or indicate applicable exception.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |                           |
| YES                               | C405.2.1<br>C405.2.2   | Method of automatic shut-off control                                | Indicate on plans the method of automatic shut-off control during unoccupied periods (occupancy sensor or time switch) for all lighting zones.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |                           |
| YES                               | C405.2.1               | Occupant sensor controls  | Indicate on plans all luminaires that are controlled by occupant sensor controls; indicate controls are configured to turn luminaires 100% off when the space is unoccupied   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |                           |
| YES                               | C405.2.1<br>C405.2.1.1 | Occupant sensor controls  | Indicate if occupant sensor controls are configured to be manual on or automatic on to not more than 50% power; indicate spaces eligible for exception that allows automatic on to 100% power.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |                           |
| NA                                | C405.2.1.2             | Occupant sensor controls - warehouse storage areas & library stacks | Indicate each aisleway within a warehouse or library stack space designated as a separate zone that is independently controlled   |  |                           |

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|     |                          |   |  |  |  |
|-----|--------------------------|---|--|--|--|
| NA  |                          |   | Indicate occupant sensors are configured to automatically reduce lighting power by $\geq 50\%$ when the zone is unoccupied for over 20 minutes; indicate controls are configured to automatically restore lighting to full power when the zone or space is occupie |  |  |
| NA  | C405.2.1.2               | Occupant sensor controls - warehouse storage areas & library stacks | Indicate method of automatic 100% shut-off (occupancy sensor or time switch)   |  |  |
| YES | C405.2.1.3               | Occupant sensor controls - open plan office areas                   | For open plan office areas larger than 300 sf, indicate all general lighting control zones are $\leq 600$ sf   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.1.3               | Occupant sensor controls - open plan office areas                   | Indicate all general lighting control zones are provided with vacancy controls that are configured to reduce lighting power by not less than 80% when the zone is unoccupied and turn luminaires 100% off when the control zone is unoccupied; indicate unoccup    | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| NA  | C405.2.1.4               | Occupant sensor controls - enclosed fire-rated stairwells           | Indicate stairway lighting is provided with occupancy sensor controls that reduce lighting power by not less than 50% when the stairway in unoccupied and restore lighting to 100% when it is occupied.  |  |  |
| YES | C405.2.1.5               | Occupant sensor controls - corridors                                | Indicate corridor lighting is provided with occupancy sensor controls that reduce lighting power by not less than 50% when the corridor is unoccupied.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.2.1               | Automatic time switch controls                                      | Indicate spaces on plans where time switch controls are configured to turn luminaires 100% off during unoccupied hours   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |                          |   | Indicate spaces on plans where time switch controls are configured to turn on lighting to full power versus 50% power  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |                          |   | Indicate locations of override switches on plans and the lighting zone(s) served; indicate that the area(s) served by each override switch does not exceed 5,000 sf.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.5.2<br>C405.2.5.4 | Daylight zones - Sidelit zones                                      | Indicate primary and secondary sidelit daylight zone floor areas on plans  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |                          |   | For small vertical fenestration assemblies (rough opening less than 10% of primary daylight zone floor area) where daylight responsive controls are not required, provide fenestration area to daylight zone floor area calculation(s).                            | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| NA  |                          |   | Indicate toplit daylight zone floor areas on plans.  |  |  |
| YES | C405.2.5<br>C405.2.5.1   | Daylight responsive controls  | Indicate on plans all lighting zone(s) served by daylight responsive controls; indicate that the area served by each control device does not exceed 2,500 SF   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

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|     |                              |   |   |  |  |
|-----|------------------------------|---|---|--|--|
| YES |                              |   | Identify sidelit and toplit daylight zones that are not provided with daylight responsive controls and the exception(s) that apply  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.5.1                   | Daylight responsive controls  | Indicate on plans that all daylight responsive controls provide continuous dimming to ≤15% full light output  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.5.1                   | Daylight responsive controls  | Indicate that daylight responsive controls are configured to completely shut off all controlled lighting fixtures within the lighting zone.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.6                     | Additional controls - Specific application lighting controls                  | Identify spaces and lighting fixtures on plans that require specific application lighting controls per this section.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.6, Items 1.1 thru 1.6 | Additional lighting controls for display, accent & supplemental task lighting | Indicate on plans that all display, accent and supplemental task lighting fixtures are controlled independently from general area lighting  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.6, Items 1.1 and 1.2  | Display and accent lighting   | For display and accent lighting fixtures, including lighting fixtures added per the C405.2.2.1 additional interior lighting power allowance, indicate on plans the separate manual controls for these fixtures and the type of automatic off controls (occupanc | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |                              |   | For display case lighting fixtures, indicate on plans the separate manual controls for these fixtures and the type of automatic off controls (occupancy sensor or time-switch)  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.6, Item 1.4           | Supplemental task lighting  | For supplemental task lighting fixtures including under-shelf or under-cabinet lighting, indicate on plans the separate manual controls for these fixtures and the type of automatic off controls (occupancy sensor or time-switch)                             | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.6, Item 1.5           | Lighting equipment for sale or demonstration                                  | For lighting equipment for sale or demonstration, indicate on plans the separate manual controls for these fixtures and the type of automatic off controls (occupancy sensor or time-switch)  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |                              |   | For exhibit lighting fixtures in galleries, museums and monuments, indicate on plans the separate manual controls for these fixtures and the type of automatic off controls (occupancy sensor or time-switch).  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|     | C405.2.6, Item 2             | Permanently installed lighting in sleeping units                              | Indicate method of automatic off control of all installed luminaires in sleeping units (vacancy or captive key card control); also refer to Receptacles.  |  |  |

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|     |                          |   |   |  |  |
|-----|--------------------------|---|---|--|--|
| NA  | C405.2.6,<br>Item 3      | Lighting for non-visual applications            | For lighting serving non-visual applications (food warming and lighting for life support of nonhuman life forms), indicate on plans that lighting fixtures are controlled independently from both general area lighting and other lighting applications within    |  |  |
| NA  |                          |   | Indicate on plans separate manual controls for non-visual lighting application fixtures and applicable automatic lighting controls; indicate that the area served by each control device does not exceed 4,000 sf.  |  |  |
| NA  |                          |   | For task lighting that serves medical & dental purposes, indicate on plans that lighting fixtures are provided with manual control that is independent from general area lighting.  |  |  |
| YES | C405.2.6,<br>Item 5      | Means of egress lighting                        | Identify all means of egress lighting fixtures on plans including fixtures that function as both normal and emergency illumination  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |                          |   | Provide calculation for total lighting power density (LPD) of all means of egress lighting fixtures; if total LPD is $\geq 0.01$ Watts/SF, indicate on plans the method of automatic shut-off control during unoccupied periods (emergency relay & occupancy sens | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| NA  | C405.2.8                 | Advanced lighting controls in open office areas | For open office areas $\geq 5,000$ sf, indicate which advanced lighting control system is provided (luminaire level lighting controls or networked lighting controls).  |  |  |
|     | C405.2.8.1               | Luminaire level lighting controls (LLLC)        | Where LLLC are provided to comply with C405.2.8, or provided as the alternate lighting controls compliance method per C405.2, or to comply with C406.2.4.2 Enhanced digital interior lighting controls; provide sequence of operations that describes required    |  |  |
| NA  | C405.2.8.1<br>C405.2.8.3 | Luminaire level lighting controls (LLLC)        | Indicate on plans that each LLLC luminaire is configured with occupancy sensing control functions (including C405.2.1.3 requirements for open office areas) and continuous full range dimming controls to brighten or dim lights based on occupancy and availab   |  |  |
| YES | C405.2.8.2               | Networked lighting control (NLC)                | Where NLC are provided to comply with C405.2.8, or to comply with C406.2.4.2 Enhanced digital interior lighting controls; provide sequence of operations that describes required NLC capabilities and performance parameters                                      | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C405.2.8.2<br>C405.2.8.3 | Networked lighting control (NLC)                | Indicate on plans that each NLC luminaire is individually addressable or document exception applied; Indicate on plans that each NLC luminaire is configured with occupancy sensing control functions (including C405.2.1.3 requirements for open office areas)   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

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|  |                                    |   |   |  |  |
|--|------------------------------------|---|---|--|--|
| YES  | C405.8.3                           | High end trim   | Where high end trim is required, luminaires shall be initially configured to limit maximum lumen output or lighting power to 85% or to the target design lighting power.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| <b>INTERIOR LIGHTING CONTROLS - ADDITIONAL ENERGY EFFICIENCY MEASURE</b> |                                    |   |   |  |  |
|  | C406.2.4.2                         | Enhanced digital interior lighting controls                           | To comply with the enhanced interior lighting controls measure, provide calculations that demonstrate that lighting in $\geq 50\%$ of the project floor area is provided with LLLC (C405.2.8.1) or NLC (C405.2.8.2) controls with high end trim (C405.2.8.3)          |  |  |
|  |                                    |   | Where LLLC is provided, indicate on plans that each LLLC controlled luminaire is configured with integral sensors; where NLC is provided, indicate on plans that each NLC controlled luminaire is configured to be independently addressable; provide sequence        |  |  |
| NA   | C406.2.4.1                         | Enhanced lighting controls in Group R-2                               | In Group R-2 occupancies, indicate on plans a master control at the main entrance to each dwelling or sleeping unit that switches off all lights and switched receptacles (may be two controls, one for lights and the other for receptacles); indicate on plan       |  |  |
| <b>INTERIOR LIGHTING CONTROLS - LIGHTING LOAD MANAGEMENT MEASURE</b>     |                                    |   |   |  |  |
| NA   | C406.3.1                           | Interior lighting DDC controls & real-time demand response            | To comply with the interior lighting load management measure, indicate automatic lighting controls are connected to a central DDC system capable of activation by an external utility signal; where utility real-time demand or pricing program exists, indicat       |  |  |
| NA   | C406.3.1                           | Interior lighting power reduction controls                            | Indicate lighting controls are configured to gradually reduce by continuous dimming the interior general area lighting power by $\geq 20\%$ in response to a peak demand signal; calculate the percentage of total building floor area served by load management ligh |  |  |
| NA   | C406.3.1                           | Warehouse & retail storage interior lighting power reduction controls | For warehouse & retail storage areas, indicate method of interior general area lighting power reduction (continuous dimming by $\geq 20\%$ ; switching off $\geq 25\%$ of lighting power).  |  |  |
| <b>EXTERIOR LIGHTING CONTROLS</b>  |                                    |   |   |  |  |
| YES  | C405.2.9<br>C405.2.9.1<br>C405.2.9 | Exterior lighting controls  | For all exterior lighting, indicate on plans automatic controls (either daylight sensing or astronomic time clock) configured to turn lighting off when daylight is present; or indicate exception applied.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES  |                                    |   | For exterior building facade & landscape lighting, indicate that controls are configured to turn this lighting off when daylight is present for a minimum of 6 hours per night, or from 1 hour after closing to 1 hour before opening per the occupancy schedul       | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

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|     |           |  |   |  |  |
|-----|-----------|--|---|--|--|
| YES |           |  | For outdoor parking area (not parking garage) luminaires that are mounted ≤ 24 feet high and are rated at ≥ 40 watts, indicate that controls are configured to turn this lighting off when daylight is present; in addition, indicate controls are config                   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |           |  | For exterior lighting other than building facade, landscape and outdoor parking area lighting, indicate controls are configured to reduce lighting power by at least 50% from 12am-6am, or 1 hour after closing to 1 hour before opening, or when no activity i             | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|     | C405.2.10 | Parking garage lighting control                            | Indicate all interior parking garage lighting fixtures are provided with time switch controls (per C405.2.2.1) or occupancy sensor controls (per C405.2.1.1); indicate controls are configured to reduce lighting power by at least 30% when no activity is det             |  |  |
| NA  | C405.2.10 | Parking garage lighting control - Perimeter lighting zones | For parking garage lighting fixtures located within 20 feet of perimeter wall openings, indicate on plans that daylight sensing controls are configured to reduce lighting power by at least 50%, or exception applied  |  |  |
|     | C405.2.10 | Parking garage lighting control - Eye adaptation lighting  | For lighting fixtures at vehicle entrances & exits, indicate on plans that daylight sensing controls are configured to reduce lighting power by at least 50% from sunrise to sunset.  |  |  |
| NA  | C405.3    | Lighting for plant growth and maintenance                  | For permanently installed lighting fixtures used specifically for plant growth and maintenance, indicate that the photosynthetic photon efficacy measured at the lamp or luminaire is ≥ 1.7 $\mu\text{mol/J}$ in greenhouses and ≥ 1.9 $\mu\text{mol/J}$ in all other indoo |  |  |
| NA  | C405.5.4  | Exterior gas-fired lighting appliances                     | Indicate ignition system is a method other than continuously burning pilot light.   |  |  |

## INTERIOR & EXTERIOR LIGHTING CONTROL CIRCUITS

|     |          |   |   |  |  |
|-----|----------|---|---|--|--|
| YES | C405.2.7 | Area controls - Master control switches | Indicate location(s) of lighting master control switch(es) intended to control multiple independent switches; a circuit breaker may not be used as a lighting master control switch | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |          |   | Verify the maximum power controlled by any single lighting control switch or automatic control device is no more than a 20 amp circuit loaded to ? 80%.                             | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

## INTERIOR LIGHTING POWER & EFFICACY

|     |          |   |   |  |  |
|-----|----------|---|---|--|--|
| YES | C405.4.1 | Total connected interior lighting power | Include all luminaires in interior lighting fixture schedule; indicate fixture types, lamps, ballasts and rated watts per fixture; include rated wattage of lamps for luminaires with lamps connected directly to building power; include wattage limit of tran | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|-----|----------|---|---|--|--|

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|     |          |   |   |  |  |
|-----|----------|---|---|--|--|
| YES |          |   | Identify spaces eligible for lighting power exemption on plans and in WSEC interior lighting compliance reports; indicate the exception applied   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |          |   | Identify lighting equipment eligible for lighting power exemption in fixture schedule and in WSEC interior lighting compliance reports; indicate the exception applied.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|     | C405.1.1 | Lighting in dwelling units              | Include all permanently installed luminaires in dwelling units in interior lighting fixture schedule; include luminaire lighting power and efficacy (lumens)  |  |  |
|     |          |   | Include all permanently installed luminaires in sleeping units in interior lighting fixture schedule; include luminaire lighting power or efficacy (lumens) depending on compliance path taken per C405.1                                   |  |  |
| NA  |          |   | For all permanently installed luminaires, indicate in interior lighting fixture schedule that rated lamp efficacy is $\geq 65$ lumens/watt or luminaire efficacy is $\geq 45$ lumens/watt.  |  |  |
| YES | C405.4.2 | Interior lighting power allowance (LPA) | Indicate which interior LPA method is applied to the entire building (Building Area Method or Space-by-Space Method); indicate LPA applied is Space-by-Space Method for partial building projects and for buildings with unfinished spaces. | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

## INTERIOR LIGHTING POWER CALCULATION - INDICATE COMPLIANCE PATH TAKEN

|     |            |                       |   |  |  |
|-----|------------|-----------------------|---|--|--|
| NA  | C405.4.2.1 | Building Area Method  | Demonstrate that total proposed interior lighting wattage per building does not exceed the sum of the maximum allowed wattages for all building area types; identify locations of building areas on plans; provide WSEC interior lighting compliance reports.   |  |  |
| YES | C405.4.2.2 | Space-By-Space Method | Demonstrate that total proposed interior lighting wattage does not exceed the maximum allowed wattage; identify locations of space types on plans, including additional allowance retail display areas and areas with display, highlight and decorative lightin | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

## INTERIOR LIGHTING POWER & EFFICACY - ADDITIONAL ENERGY EFFICIENCY MEASURES

|    |                          |   |  |  |  |
|----|--------------------------|---|--|--|--|
| NA | C406.2.3.1<br>C406.2.3.2 | Reduced interior lighting power density (LPD) | To comply with the reduced interior LPD additional energy efficiency measure, demonstrate that total proposed interior LPD wattage is 10% or 20% lower than the total interior LPA wattage for the area the reduced lighting power measure is being applied to |  |  |
|----|--------------------------|---|--|--|--|

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|                                     |                   |   |   |  |  |
|-------------------------------------|-------------------|---|---|--|--|
|                                     | C406.2.3.3        | Reduced interior LPD - Dwelling & sleeping unit lamp efficacy | To comply with reduced interior LPD additional energy efficiency measure for a building with dwelling units or sleeping units, indicate in interior lighting fixture schedule that all permanently installed luminaires have a rated lamp efficacy ≥ 90 lumen   |  |  |
| EXTERIOR LIGHTING POWER & EFFICACY  |                   |   |   |  |  |
| YES                                 | C405.5.2          | Total connected exterior lighting power                       | Include all luminaires in exterior lighting fixture schedule; indicate fixture types, lamps, ballasts and rated watts per fixture; include rated wattage of lamps for luminaires with lamps connected directly to building power; include wattage limit of tran | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES                                 |                   |   | Identify exterior lighting applications eligible for lighting power exemption on plans and in WSEC exterior lighting compliance reports; indicate the exception applied.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES                                 | TABLE C405.5.3(1) | Exterior lighting zone  | Indicate the building exterior lighting zone as specified by the AHJ.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES                                 | C405.5.1          | Exterior building grounds lighting                            | For building grounds lighting fixtures rated at greater than 25 watts, indicate in exterior lighting fixture schedule that fixtures have a rated lamp efficacy ≥ 100 lumens/watt or indicate the exception applied.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| EXTERIOR LIGHTING POWER CALCULATION |                   |   |   |  |  |
| YES                                 | C405.5.3          | Exterior lighting power allowance (LPA)                       | Demonstrate that total proposed exterior surface lighting wattage does not exceed the maximum allowed wattage (including base site allowance); identify locations of exterior surfaces on plans; provide WSEC exterior lighting compliance reports              | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES                                 |                   |   | Demonstrate that total proposed wattage for each additional allowance exterior surface type does not exceed the LPA for the surface type (includes base site allowance remaining after C405.5.3 LPA calculation); identify locations of additional allowance ex | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| LIGHTING SYSTEMS ALTERATIONS        |                   |   |   |  |  |
| YES                                 | C503.7.1          | New lighting systems and controls                             | Where new interior or exterior lighting systems are installed within an existing building site, indicate new lighting controls comply with C405.2; indicate commissioning of lighting controls (C408.4) and lighting system energy end-use metering (C409.3) wi | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| NA                                  | C503.7.2          | Interior lighting & parking garage lighting alteration        | Include all new luminaires in interior lighting fixture schedule in plans, provide same lighting fixture information as for new construction per C405.4.1 and C405.4.2  |  |  |



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2021 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 -- Administered by ©2025 NEEA, All rights reserved

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|     |          |   |  |  |  |
|-----|----------|---|--|--|--|
|     |          |   | For alterations that add or replace $\geq 20\%$ of luminaires within an interior space or parking garage, indicate which interior lighting power allowance (LPA) method is applied to the alteration project area (Space-by-Space Method for partial building alte |  |  |
|     |          |   | Demonstrate that total proposed interior lighting wattage (including existing-to-remain lighting wattage) within the alteration project area does not exceed the maximum allowed wattage (Space-by-Space Method) or the sum of the maximum allowed wattages for    |  |  |
| NA  | C503.7.2 | Interior lighting alterations (LPA) - Add/replace         | For alterations that add or replace $< 20\%$ of luminaires in an interior space or parking garage, calculate total existing interior lighting wattage within the project area prior to the alteration  |  |  |
| YES | C503.7.2 | Interior lighting alterations (LPD) - Add/replace         | Demonstrate that total proposed interior lighting wattage (including existing-to-remain lighting wattage) within the alteration project area does not exceed the total existing interior lighting wattage prior to the alteration; provide WSEC interior lighti    | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES |          |   | Include all new luminaires in exterior lighting fixture schedule in plans, provide same lighting fixture information as for new construction per C405.5.2  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|     | C503.7.2 | Exterior lighting alterations (LPA) - Add/replace &ge 20% | For alterations that add or replace $\geq 20\%$ of exterior lighting wattage, indicate exterior lighting power allowance (LPA) calculated in the same manner as for new construction   |  |  |
| YES | C503.7.2 | Exterior lighting alterations (LPD) - Add/replace &ge 20% | Demonstrate that total proposed exterior lighting wattage (including existing-to-remain lighting wattage) does not exceed the maximum allowed wattage; identify locations of surface types on plans, including additional allowance surfaces; provide WSEC exte    | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| NA  | C503.7.2 | Exterior lighting alterations (LPA) - Add/replace         | For alterations that add or replace $< 20\%$ of exterior lighting wattage, calculate total existing exterior lighting wattage prior to the alteration  |  |  |
| YES | C503.7.2 | Exterior lighting alterations (LPD) - Add/replace         | Demonstrate that total proposed exterior lighting wattage (including existing-to-remain lighting wattage) does not exceed the total existing exterior lighting wattage prior to the alteration; identify locations of surface types on plans, including additio    | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES | C503.7.3 | Interior lighting wiring & circuiting alterations         | Where new wiring is installed to serve new interior luminaires and /or luminaires are relocated to a new circuit; indicate manual and automatic lighting controls are provided (as applicable) - manual & light reduction (C405.2.3 & C405.2.4); occupancy sens    | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

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|             |          |                              |   |  |  |
|-------------|----------|------------------------------|---|--|--|
| YES         |          |                              | Where new wiring is installed to serve new exterior luminaires and /or luminaires are relocated to a new circuit; indicate circuit power area controls (C405.2.7) are provided; indicate commissioning of exterior lighting controls (C408.4) will be provided, | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES         | C503.7.4 | Lighting panel alterations   | Where a new interior and/or exterior lighting panel is installed or an existing panel is moved (including all new raceway and conductor wiring), indicate all of the same interior lighting controls requirements as for wiring & circuiting alterations apply, | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|             | C503.7.5 | Newly-created rooms          | Where interior space(s) are reconfigured (permanently installed walls or ceiling-height partitions) to create new enclosed spaces, indicate the following manual and automatic lighting controls are provided (as applicable) - manual & light reduction (C405. |  |  |
| NA          | C504.2   | Lighting repairs             | Identify existing luminaires being upgraded with bulb and / or ballast replacement; indicate fixture alteration does not increase existing fixture wattage  |  |  |
| YES         | C505.1   | Change of interior space use | Identify spaces on plans where the building area type or space use type is being changed from one type to another per Tables C405.4.2(1) or (2) including additional allowance retail display areas and areas with display, highlight and decorative lighting   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES         |          |                              | Demonstrate that total proposed interior lighting wattage (including existing-to-remain lighting wattage) within the alteration project area does not exceed the maximum allowed wattage (Space-by-Space Method) or the sum of maximum allowed wattage per each | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| RECEPTACLES |          |                              |   |  |  |
| YES         | C405.10  | Automatic receptacle control | Provide schedule on electrical plans that lists the number of controlled and uncontrolled receptacles in each space where controlled receptacles are required - classrooms, enclosed offices, conference rooms, copy/print rooms, break rooms and individual wo | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES         |          |                              | Identify all controlled and uncontrolled receptacles on electrical plans; indicate that ≥ 50% of all receptacles are provided with automatic controls in each space where they are required; include receptacle configuration such as spacing between contro    | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES         |          |                              | Indicate on plans the method of automatic control for each controlled receptacle zone (occupant sensor or programmable time-of-day control); indicate that the area served by each control device does not exceed 5,000 sf.                                     | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

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|     |                  |  |   |  |  |
|-----|------------------|--|---|--|--|
|     | C405.2.6, Item 2 | Switched receptacles in sleeping units               | Indicate method of automatic off control of all switched receptacles in sleeping units (vacancy or key card control).   |  |  |
| NA  | C405.7.1         | Electric receptacles at dwelling unit gas appliances | In all designated appliance locations within dwelling units (kitchen cooking appliances, laundry and domestic water heating), indicate electric receptacles or junction box & circuit within 12 inches of the appliance location with sufficient capacity to se |  |  |
| YES | C503.7.7         | Electrical receptacle alterations                    | For alteration project areas $\geq 5,000$ sf where electric receptacles are added or replaced, indicate receptacles are provided with automatic controls per C405.10, or exception applied.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |

## ELECTRIC MOTORS

|     |        |                           |   |  |  |
|-----|--------|---------------------------|---|--|--|
| YES | C405.8 | Electric motor efficiency | Include all motors, including fractional hp motors, in electric motor schedule on electrical plans; indicate motor type, horsepower, rpm, rated efficiency, or exception applied. | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|-----|--------|---------------------------|---|--|--|

## ELEVATORS, ESCALATORS & MOVING WALKS

|  |          |                             |  |  |  |
|--|----------|-----------------------------|--|--|--|
|  | C405.9.1 | Elevator cabs               | For luminaires in each elevator cab, provide calculations that demonstrate average efficacy is not less than 35 lumens per watt  |  |  |
|  |          |                             | For elevators that do not have an integral air conditioning system, indicate rated watts per cfm for elevator cab ventilation fans do not exceed 0.33 watts per cfm  |  |  |
|  |          |                             | Indicate automatic controls that de-energize lighting and ventilation fans when elevator is stopped and unoccupied for a period of 15 minutes or more.   |  |  |
|  | C405.9.2 | Escalators and moving walks | Indicate escalators and moving walks comply with ASME A17.1/CSA B44 and are provided with automatic controls that are configured to reduce operational speed to the minimum permitted when not in use, or exception applied. |  |  |
|  | C405.9.3 | Escalator energy recovery   | Indicate escalators are designed to recover electrical energy when resisting overspeed in the down direction.  |  |  |

## RENEWABLE ENERGY

|    |      |                  |   |  |  |
|----|------|------------------|---|--|--|
| NA | C411 | Renewable Energy | For new construction, including additions, change of use, and change of occupancy, with floor area $\geq 10000$ sf; provide documentation of on-site renewable energy capacity; provide calculations supporting applicable exceptions; if qualifying by exception provide an accounting for the additional Additional Energy Efficiency Credits that will be required |  |  |
|----|------|------------------|---|--|--|

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| RENEWABLE ENERGY - ADDITIONAL ENERGY EFFICIENCY MEASURE |          |   |  |  |  |
|---|----------|---|--|--|--|
| NA  | C406.2.5 | On-site and off-site renewable energy                                     | To comply with the renewable energy measure, provide an accounting of on-site and any contracted off-site renewable energy capacity; for all off-site sources, indicate the C411.2 renewable energy source type, energy factor, and the rated capacity and calculated code credited kW; indicate on-site renewables used to comply with C411 or for a code exception elsewhere in the code; with the remaining renewable energy provide Equation 4-17 calculations showing the achieved credits and that the achieved credits are ? the base credits for the measure |  |  |
|   | C406.2.5 | On-site and off-site renewable energy                                     | Provide documentation that all off-site renewable energy systems comply with Sections C411.2.2 and C411.2.3 including all contracts, and the ownership and location of off-site generation   |  |  |
| ELECTRIC ENERGY STORAGE - LOAD MANAGMENT MEASURE        |          |   |  |  |  |
| NA  | C406.3.4 | Electric energy storage   | To comply with the electrical energy storage load managment measure, indicate automatic controls shall store electricity in electric storage devices during nonpeak periods and use stored energy during peak periods; Document the total electric storage device capacity; indicate it is ? 5 Wh/sf (58 Wh/sm) of gross building area; for proration provide the proration calculations supporting the claimed credit   |  |  |
| GENERAL ELECTRICAL SYSTEMS                              |          |   |  |  |  |
| YES   | C405.6   | Electrical transformers   | Include electrical transformer schedule on electrical plans; indicate transformer type, size (kVA), efficiency, or exception applied.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
|   | C405.7   | Dwelling unit electrical energy consumption                               | Indicate on electrical plans that each dwelling unit in a Group R-2 building has a separate electrical energy meter, or exception applied.   |  |  |
| YES   | C405.11  | Voltage drop  | Indicate wire conductors are sized so that the maximum voltage drop from customer service conductors to branch circuit conductors is &le 5%.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES   | C405.12  | Alternating current-output uninterruptible power supplies (AC-output UPS) | Indicate in plans that AC-output UPS systems serving computer rooms meet or exceed the calculation and testing requirements identified in ENERGY STAR Program Requirements for Uninterruptible Power Supplies (UPS) ? Eligibility Criteria Version 2.0.  | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| COMMISSIONING (CX)                                      |          |   |  |  |  |

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|  |                      |  |   |  |  |
|--|----------------------|--|---|--|--|
| YES  | C408.4               | Scope of electrical power & lighting systems commissioning | Indicate that all electrical systems (receptacles, transformers, motors, vertical & horizontal transportation) for which the WSEC requires control functions and/or configuration to perform specific functions are required to be commissioned; include docume     | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES  |                      |  | Where total building lighting load is $\geq 10$ kW or the total lighting load of luminaires requiring daylight sensing and/or occupancy control is $\geq 5$ kW, indicate that all automatic lighting control systems are required to be commissioned; or provide ca | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES  | C408.1.1             | Commissioning requirements in construction documents       | Indicate Cx requirements in plans and specifications for all applicable electrical and lighting control systems   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES  | C408.1.2<br>C103.6.3 | Commissioning requirements in construction documents       | General summary of Cx plan shall include the following: 1) Narrative description of activities; 2) Responsibilities of the Cx team; 3) Schedule of activities including verification of project close out documentation (C103.6); 4) Conflict of interest plan      | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES  | C408.1.3<br>C408.1.4 | Commissioning requirements in construction documents       | Include in general summary that a Cx project report and Cx Compliance Checklist (Figure C408.1.4.1) shall be completed by the Certified Cx Professional and provided to the owner prior to the final electrical inspection.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| YES  | C408.4.1             | Functional performance testing criteria                    | Identify in plans and specifications the intended operation of all electrical equipment and controls during all modes of operation, including interfacing between new and existing-to-remain systems.   | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| <b>PROJECT CLOSE OUT</b>                                   |                      |  |   |  |  |
| YES  | C103.6.3             | Documentation requirements                                 | Indicate in plans that project close out documentation is required; indicate information shall include WSEC lighting compliance reports that document all interior lighting areas and space types, exterior lighting surface types, interior/exterior lighting      | E0.01, E2.11, E2.12, E4.11, E6.21, E6.22 |  |
| If "no" is selected for any question, provide explanation. |                      |  |   |  |  |
|  |                      |  |   |  |  |