#### **CHAPTER 1 [CE]**

#### SCOPE AND ADMINISTRATION

## SECTION C101 SCOPE AND GENERAL REQUIREMENTS

C101.1 Title. This code, consisting of Chapter 1 [CE] through Chapter 5 [CE] and Appendices A through D, shall be known as the ((Washington State)) "Commercial Portions of the International Energy Code of Seattle, or the "Seattle Commercial Energy Code", and shall be cited as such. It is referred to herein as "this code."

**C101.2 Scope.** This code applies to *commercial buildings* and the building sites and associated systems and equipment.

**Exception:** The provisions of this code do not apply to temporary growing structures used solely for the commercial production of horticultural plants, including ornamental plants, flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

**C101.3 Intent.** This code shall regulate the design and construction of buildings for the effective use and conservation of energy over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

**C101.4 Applicability.** Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

**C101.4.1 Existing buildings.** Except as specified in this chapter, this code shall not be used to require the removal, *alteration* or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this code.

C101.4.2 ((Historie)) <u>Landmark</u> buildings. The ((building)) <u>code</u> official may modify the specific requirements of this code for ((historie buildings)) <u>landmarks</u> and require in lieu <u>thereof</u> alternate requirements ((which)) that the <u>code official</u> determines will not have an adverse effect on the designated historic features of the building and will result in a reasonable degree of energy efficiency.

((This modification may be allowed for those buildings or structures that are listed in the state or National Register of Historic Places; designated as a historic property under local or state designation law or survey; certified as a contributing resource with a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National

or State Registers of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places.))

C101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building. *Substantial alterations* and repairs shall comply with the provisions of Section C101.4.7.

**Exception:** The following need not comply provided the energy use of the building is not increased:

- 1. Storm windows installed over existing fenestration.
- Glass only replacements in an existing sash and frame.
- 3. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are insulated to full depth with insulation having a minimum nominal value of R-3.0 per inch installed per Section C402.
- 4. Construction where the existing roof, wall or floor cavity is not exposed.
- 5. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
- 6. Replacement of existing doors that separate *conditioned space* from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a *conditioned space* from the exterior shall not be removed.
- 7. Alterations to lighting systems only that replace less than ((60)) 20 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- 8. Reserved. ((Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.))
- 9. Where an alteration project impacts an area smaller than 5,000 square feet, they are not required to be *controlled receptacles*.

- 10. Where existing systems furniture or partialheight relocatable office cubicle partitions are reconfigured or relocated within the same area, controlled receptacles are not required in the existing systems furniture or office cubicle partitions.
- 11. Where new or altered receptacles meet the exception to Section C405.14, they are not required to be *controlled receptacles* or located within 72 inches of non-controlled receptacles.

C101.4.3.1 Lighting and motors. Alterations that  $\underline{add}$ , alter or replace  $((6\theta))$   $\underline{20}$  percent or more of the luminaires or of the lamps plus ballasts alone in a space enclosed by walls or ceiling-height partitions, or on the exterior of the building, shall comply with Sections C405.5 and C405.6. Where less than  $((6\theta))$  20 percent of the fixtures in a space enclosed by walls or ceiling-height partitions, or on the exterior of the building, are new or altered, the installed lighting wattage shall be maintained or reduced.

TABLE C101.4.3.1
ECONOMIZER COMPLIANCE OPTIONS FOR MECHANICAL ALTERATIONS

UNIT TYPE	OPTION A	OPTION B (alternate to A)	OPTION C (alternate to A)	OPTION D (alternate to A)
	Any Alteration with New or Replacement Equipment	Replacement Unit of the Same Type with the Same or Smaller Output Capacity	Replacement Unit of the Same Type with a Larger Output Capacity	New Equipment Added to Existing System or Replacement Unit of a Different Type
1. <u>Reserved</u> (( <del>Packaged</del> <del>Units</del>	Efficiency: min.* Economizer: C403.4.1*	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b, e</sup>	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b,e</sup>	Efficiency: min. <sup>e</sup> Economizer: C403.4.1 <sup>b,-e</sup> ))
2. Split Systems	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	Efficiency: + 10/5% <sup>e</sup> Economizer: shall not decrease existing economizer capability	Only for new units < 54,000 Btu/h replacing unit installed prior to 1991 (one of two): Efficiency: + 10/5% <sup>e</sup> Economizer: 50% <sup>f</sup>	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b.d</sup>
			For units ≥ 54,000 Btu/h or any units installed after 1991: Option A	
3. Water Source Heat Pump	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	(two of three): Efficiency: + 10/5% <sup>c</sup> Flow control valve <sup>g</sup> Economizer: 50% <sup>f</sup>	(three of three): Efficiency: + 10/5% <sup>c</sup> Flow control valve <sup>g</sup> Economizer: 50% <sup>f</sup> (except for certain pre- 1991 systems <sup>h</sup> )	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b, d</sup> (except for certain pre- 1991 systems <sup>h</sup> )
4. Hydronic Economizer using Air-Cooled Heat Rejection Equipment (Dry Cooler)	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	Efficiency: + 10/5% <sup>e</sup> Economizer: shall not decrease existing economizer capacity	Option A	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b, d</sup>
5. Air-Handling Unit (including fan coil units) where the system has an air-cooled chiller	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	Economizer: shall not decrease existing economizer capacity	Option A (except for certain pre- 1991 systems <sup>h</sup> )	Option A (except for certain pre- 1991 systems <sup>h</sup> )
6. Air-Handling Unit (including fan coil units) and Water-cooled Process Equipment, where the system has a water-cooled chiller <sup>j</sup>	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	Economizer: shall not decrease existing economizer capacity	Option A (except for certain pre- 1991 systems <sup>h</sup> and certain 1991-2004 systems <sup>i</sup> )	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b, d</sup> (except for certain pre- 1991 systems <sup>h</sup> and certain 1991-2004 systems <sup>i</sup> )
7. Cooling Tower	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	No requirements	Option A	Option A
8. Air-Cooled Chiller	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b</sup>	Efficiency: + 5% <sup>k</sup> Economizer: shall not decrease existing economizer capacity	Efficiency: (two of two): (1) + 10%¹ and (2) multistage Economizer: shall not decrease existing economizer capacity	Efficiency: min. <sup>a</sup> Economizer: C403.4.1 <sup>b, d</sup>

(continued)

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### TABLE C101.4.3.1—continued ECONOMIZER COMPLIANCE OPTIONS FOR MECHANICAL ALTERATIONS

	OPTION A	OPTION B (alternate to A)	OPTION C (alternate to A)	OPTION D (alternate to A)
UNIT TYPE	Any Alteration with New or Replacement Equipment	Replacement Unit of the Same Type with the Same or Smaller Output Capacity	Replacement Unit of the Same Type with a Larger Output Capacity	New Equipment Added to Existing System or Replacement Unit of a Different Type
9. Water-Cooled Chiller	Efficiency: min.a	Efficiency:	Efficiency:	Efficiency: min.a
	Economizer: C403.4.1 <sup>b</sup>	(one of two):	(two of two):	Economizer: C403.4.1 <sup>b, d</sup>
		$(1) + 10\%^{\text{m}} \text{ or }$	$(1) + 15\%^{n}$ and	
		(2) plate frame heat	(2) plate-frame heat	
		exchanger <sup>o</sup>	exchanger <sup>o</sup>	
		Economizer: shall not	Economizer: shall not	
		decrease existing economizer capacity	decrease existing economizer capacity	
10. Boiler	Efficiency: min.a	Efficiency: +8% <sup>p</sup>	Efficiency: + 8% <sup>p</sup>	Efficiency: min.a
	Economizer: C403.4.1 <sup>b</sup>	Economizer: shall not	Economizer: shall not	Economizer: C403.4.1 <sup>b, d</sup>
		decrease existing	decrease existing	
		economizer capacity	economizer capacity	

For SI: 1 inch = 25.4 mm, 1 British thermal unit per hour = 0.2931 W.

- a. Minimum equipment efficiency shall comply with Section C403.2.3 and Tables C403.2.3(1) through C403.2.3(9).
- b. System and building shall comply with Section C403.4.1 (including both the individual unit size limits and the total building capacity limits on units without economizer). It is acceptable to comply using one of the exceptions to Section C403.4.1.
- c. All equipment replaced in an existing building shall have air economizer complying with Sections C403.3.1 and C403.4.1 unless both the individual unit size and the total capacity of units without air economizer in the building is less than that allowed in Exception 1 to Section C403.3.1.
- d. All separate new equipment added to an existing building shall have air economizer complying with Sections C403.3.1 and C403.4.1 unless both the individual unit size and the total capacity of units without air economizer in the building is less than that allowed in Exception 1 to Section C403.4.1.
- e. Equipment shall have a capacity-weighted average cooling system efficiency:
  - 1. for units with a cooling capacity below 54,000 Btu/h, a minimum of 10 percent greater than the requirements in Tables C403.2.3(1) and C403.2.3(2) [1.10 × values in Tables C403.2.3(1) and C403.2.3(2)].
  - 2. for units with a cooling capacity of 54,000 Btu/h and greater, a minimum of 5 percent greater than the requirements in Tables C403.2.3(1) and C403.2.3(2) [1.05 × values in Tables C403.2.3(1) and C403.2.3(2)].
- f. Minimum of 50 percent air economizer that is ducted in a fully enclosed path directly to every heat pump unit in each zone, except that ducts may terminate within 12 inches of the intake to an HVAC unit provided that they are physically fastened so that the outside air duct is directed into the unit intake. If this is an increase in the amount of outside air supplied to this unit, the outside air supply system shall be capable of providing this additional outside air and equipped with economizer control.
- g. Have flow control valve to eliminate flow through the heat pumps that are not in operation with variable speed pumping control complying with Section C403.4.3 for that heat pump.
  - When the total capacity of all units with flow control valves exceeds 15 percent of the total system capacity, a variable frequency drive shall be installed on the main loop pump.
  - As an alternate to this requirement, have a capacity-weighted average cooling system efficiency that is 5 percent greater than the requirements in Note e {i.e., a minimum of 15 percent/10 percent greater than the requirements in Tables C403.2.3(1) and C403.2.3(2) [1.15/1.10 × values in Tables C403.2.3(1) and C403.2.3(2)]}.
- h. Systems installed prior to 1991 without fully utilized capacity are allowed to comply with Option B, provided that the individual unit cooling capacity does not exceed 90,000 Btu/h.
- i. Economizer not required for systems installed with water economizer plate and frame heat exchanger complying with previous codes between 1991 and June 2013, provided that the total fan coil load does not exceed the existing or added capacity of the heat exchangers.
- j. For water-cooled process equipment where the manufacturers specifications require colder temperatures than available with waterside economizer, that portion of the load is exempt from the economizer requirements.
- k. The air-cooled chiller shall have an IPLV efficiency that is a minimum of 5 percent greater than the IPLV requirements in EER in Table C403.2.3(7) [1.05 × IPLV in EER values in Table C403.2.3(7)].
- 1. The air-cooled chiller shall:
  - 1. have an IPLV efficiency that is a minimum of 10 percent greater than the IPLV requirements in EER in Table C403.2.3(7) [1.10  $\times$  IPLV values in EER in Table C403.2.3(7)], and
  - 2. be multistage with a minimum of two compressors.
- m. The water-cooled chiller shall have an IPLV efficiency that is a minimum of 10 percent greater than the IPLV requirements in kW/ton in Table C403.2.3(7) [1.10 × IPLV values in kW/ton in Table C403.2.3(7)]. Water-cooled centrifugal chillers designed for nonstandard conditions shall have an NPLV efficiency that is at least 10 percent greater than the adjusted maximum NPLV rating in kW/ton defined in paragraph C403.2.3.1 (1.10 x NPLV).
- n. The water-cooled chiller shall have an IPLV efficiency that is a minimum of 15 percent greater than the IPLV requirements in kW/ton in Table C403.2.3(7), [1.15 × IPLV values in kW/ton in Table C403.2.3(7)]. Water-cooled centrifugal chillers designed for nonstandard conditions shall have an NPLV efficiency that is at least 10 percent greater than the adjusted maximum NPLV rating in kW/ton defined in paragraph C403.2.3.1 (1.10 x NPLV).
- o. Economizer cooling shall be provided by adding a plate-frame heat exchanger on the waterside with a capacity that is a minimum of 20 percent of the chiller capacity at standard AHRI rating conditions.
- p. The replacement boiler shall have an efficiency that is a minimum of 8 percent higher than the value in Table C403.2.3(5) [1.08 × value in Table C403.2.3(5)], except for electric boilers.

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New lighting control devices shall comply with the requirements of Section C405.2. Where new wiring is being installed to serve added fixtures and/or fixtures are being relocated to a new circuit, controls shall comply with Sections C405.2.1, C405.2.2.3, C405.2.3, C405.2.4 ((C405.3.4)), and, as applicable, C408.3. In addition, office areas less than 300 square feet (28 m<sup>2</sup>) enclosed by walls or ceiling-height partitions, and all meeting and conference rooms, and all school classrooms, shall be equipped with occupancy sensors that comply with Sections C405.2.2 and C408.3. Where a new lighting panel (or a moved lighting panel) with all new raceway and conductor wiring from the panel to the fixtures is being installed, controls shall also comply with the other requirements in Sections C405.2.2 and C408.3.

Where new walls or ceiling-height partitions are added to an existing space and create a new enclosed space, but the lighting fixtures are not being changed, other than being relocated, the new enclosed space shall have controls that comply with Sections C405.2.1, C405.2.2, C405.2.3 and C408.3.

Those motors which are altered or replaced shall comply with Section C403.2.13. <u>In no case shall the energy efficiency of the building be decreased.</u>

C101.4.3.2 Mechanical systems. Those parts of systems which are altered or replaced shall comply with Section C403. Additions or alterations shall not be made to an existing mechanical system that will cause the existing mechanical system to become out of compliance.

All new systems in existing buildings, including packaged unitary equipment and packaged split systems, shall comply with Section C403.

Where mechanical cooling is added to a space that was not previously cooled, the mechanical cooling system shall comply with the economizer requirements in Section C403.3.1 or C403.4.1.

**Exception:** Alternate designs that are not in full compliance with this code may be approved when the building official determines that existing building or occupancy constraints make full compliance impractical or where full compliance would be economically impractical.

Alterations to existing mechanical cooling systems shall not decrease economizer capacity unless the system complies with Section C403.3.1 or C403.4.1. In addition, for existing mechanical cooling systems that do not comply with Sections C403.3.1 or Section C403.4.1, including both the individual unit size limits and the total building capacity limits on units without economizer, other alterations shall comply with Table C101.4.3.1.

When space cooling equipment is replaced, controls shall be installed to provide for integrated operation with economizer in accordance with Section C403.3.

Existing equipment currently in use may be relocated within the same floor or same tenant space if removed and reinstalled within the same permit.

C101.4.4 Change in occupancy or use. Spaces undergoing a change in occupancy from an F, S or U occupancy to an occupancy other than F, S or U shall comply with this code. Any space that is converted to a residential dwelling unit or portion thereof, from another use or occupancy shall comply with this code. Where the use in a space changes from one use in Table C405.5.2(1) or (2) to another use in Table C405.5.2(1) or (2), the installed lighting wattage shall comply with Section C405.5.

**Exception:** Where the component performance building envelope option in Section C402.1.3 is used to comply with this section, the Proposed UA is allowed to be up to 110 percent of the Target UA. Where the total building performance option in Section C407 is used to comply with this section, the annual energy consumption of the proposed design is allowed to be 110 percent of the annual energy consumption otherwise allowed by Section C407.3 and Section C401.2(3).

**C101.4.5** Change in space conditioning. Any nonconditioned space that is altered to become *conditioned space* or *semi-heated* space shall be required to be brought into full compliance with this code. Any *semi-heated* space that is altered to become conditioned space, or any heated but not cooled space that is altered to become both heated and cooled, shall be required to be brought into full compliance with this code.

**Exception:** Where the component performance building envelope option in Section C402.1.3 is used to comply with this section, the Proposed UA is allowed to be up to 110 percent of the Target UA. Where the total building performance option in Section C407 is used to comply with this section, the annual energy consumption of the proposed design is allowed to be 110 percent of the annual energy consumption otherwise allowed by Section C407.3 and Section C401.2(3).

**C101.4.6 Mixed occupancy.** Where a building includes both *residential* and *commercial* occupancies, each occupancy shall be separately considered and meet the applicable provisions of IECC—Commercial Provisions or IECC—Residential Provisions.

C101.4.7 Substantial alterations or repairs. In addition to meeting the applicable requirements of this code, any building or structure to which substantial alterations or repairs are made shall comply with the requirements of this section. A permit application for a voluntary energy upgrade to the building envelope is permitted to be made separately from the permit application for a substantial alterations project, provided that the threshold determination for substantial alterations includes the value of any such building envelope work.

#### **Exceptions:**

1. Alterations and repairs to *landmark* buildings shall comply with this section to the extent that the *code official* determines that such compliance does not have an adverse effect on the designated historic features of the building. The energy use allowed by subsections 2, 3 or 4 of Section C101.4.7.3 is permitted to be increased in propor-

- tion to the additional energy use required for protection of such designated features.
- 2. A project that is defined as a substantial alteration primarily due to the seismic retrofitting of a building's unreinforced masonry walls is exempt from the requirements of this section.
- 3. A building constructed in compliance with the 2003 or more recent edition of the *Seattle Building Code* that would be classified as a substantial alteration only due to being reoccupied after being substantially vacant for more than 24 months is exempt from the requirements of this section.

C101.4.7.1 Definition. For the purposes of this section, substantial alterations or repairs means items 1, 2 or 4, or any combination thereof, of the definition of substantial alterations or repairs in Chapter 3 of the Seattle amendments to the IEBC, as determined by the *code official*.

**Informative Note:** Definitions 1, 2 and 4 of "substantial alterations or repairs" in the Seattle amendments to the IEBC are as follows:

- 1. Repair of buildings with damage ratios of 60 percent or more.
- 2. Remodeling or additions that substantially extend the useful physical and/or economic life of the building or a significant portion of the building, other than typical tenant remodeling.

3. . . .

4. Re-occupancy of a building that has been substantially vacant for more than 24 months in occupancies other than Group R-3.

<u>5. ...</u>

C101.4.7.2 Pre-submittal conference. The applicant shall attend a pre-submittal conference to discuss the selected compliance path. Prior to this conference, the applicant shall meet with each energy utility serving the building to determine whether technical assistance or financial incentives are available for energy efficiency upgrades, and shall submit documentation of these meetings.

<u>C101.4.7.3 Energy efficiency.</u> Buildings undergoing substantial alterations shall comply with one of the following:

- 1. **Full code compliance.** Fully comply with the requirements of this code for new construction.
- 2. Envelope thermal performance within 20 percent of code. Demonstrate that heat loss through the altered building envelope is no more than 20 percent greater than allowed by the *Seattle Energy Code*, using the Component Performance Building Envelope Option in Section C402.1.3, and meet all other prescriptive requirements of the *Seattle Energy Code* for new construction.

- 2.1. Default *U*-values. The values listed in Appendix A and Section C303 shall be used as the default *U*-values for existing building envelope components. For buildings with permits issued after January 1, 1992, existing building envelope components are deemed to meet the minimum *U*-values required by the edition of the *Seattle Energy Code* in effect at the time of permit application, where visual inspection by the *code official* reveals that those components appear to be equal to or better than codecompliant components.
- 3. Total building performance within 15 percent of code. Demonstrate that the building energy consumption will be less than 105 percent of the standard reference design using the Total Building Performance methodology in Section C407 of the Seattle Energy Code.
- 4. Operating energy alternative. The code official may allow a calculated building energy consumption 20 percent greater than the standard reference design calculated in accordance with the Total Building Performance methodology in Section C407, provided that:
  - a. The applicant demonstrates that constructability, economic, or historic preservation considerations preclude conformance with any of the above options; and
  - b. The owner agrees to operate the altered building at or below the annual energy use level predicted for that calculated energy performance during a period of 12 consecutive months, concluding no later than three years after issuance of the certificate of occupancy, adjusted as allowed by Sections C402.1.5.6 through C402.1.5.10, and to meet the requirements of Sections C402.1.5.11 through C402.1.5.13, substituting the energy consumption standard in option 4 of this Section C101.4.7.3 for the energy consumption targets set out in Section C402.1.5.2.
  - 4.1. **Reporting.** The building owner shall report the energy consumption in kBTU/square foot using automated reporting directly from utilities via Energy Star Portfolio Manager, and shall authorize the *code official* to view the reports directly in Portfolio Manager during the demonstration period.
- C101.4.7.4 Impracticality. In cases where full compliance with all the requirements of Section C101.4.7 is impractical, the applicant is permitted to arrange a predesign conference with the design team and the *code official* to seek modifications. The applicant shall identify specific requirements that are impractical, and shall identify design solutions and modifications that achieve a comparable level of energy efficiency. The *code official* is authorized to waive specific requirements in this

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code to the extent that the *code official* determines those requirements to be impractical.

**C101.5 Compliance.** *Residential buildings* shall meet the provisions of IECC—Residential Provisions. *Commercial buildings* shall meet the provisions of IECC—Commercial Provisions.

**C101.5.1 Compliance materials.** The *code official* shall be permitted to approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of this code.

**C101.5.2** Low energy buildings. The following buildings, or portions thereof, separated from the remainder of the building by *building thermal envelope* assemblies complying with this code shall be exempt from all *thermal envelope* provisions of this code:

- 1. Those that are heated and/or cooled with a peak design rate of energy usage less than 3.4 Btu/h · ft² (10.7 W/m²) or 1.0 watt/ft² (10.7 W/m²) of floor area for space conditioning purposes.
- 2. Those that do not contain *conditioned space*.
- 3. Greenhouses isolated from any conditioned space and not intended for occupancy.

C101.5.2.1 Semi-heated spaces. A semi-heated space shall meet all of the building thermal envelope requirements, except that insulation is not required for opaque wall assemblies. Fenestration shall comply with building thermal envelope requirements. Component performance calculations involving semi-heated spaces shall calculate fully insulated opaque walls for the Target UA calculation, and Total Building Performance calculations involving semi-heated spaces shall calculate fully insulated opaque walls for the Standard Reference Design.

Informative Note: There is no separate "freeze protection" space conditioning category for unoccupied utility buildings. Spaces with no cooling and less than 3.4 Btu/h-ft² heating capacity are not required to be insulated. The opaque walls of spaces that meet the definition of "semi-heated" in Chapter 2 are not required to be insulated, but otherwise the thermal envelope of semi-heated spaces must meet all requirements for conditioned space. Spaces with any mechanical cooling or with more than 8 Btu/h-ft² heating capacity must meet all the building thermal envelope requirements for conditioned space.

# SECTION C102 ALTERNATE MATERIALS—METHOD OF CONSTRUCTION, DESIGN OR INSULATING SYSTEMS

C102.1 General. This code <u>does not</u> ((is not intended to)) prevent the use of any material, method of construction, design or insulating system <u>prohibited</u> by this code or not specifically ((prescribed)) <u>allowed</u> herein, provided that such construction, design or insulating system has been *approved* by the *code official* ((as meeting the intent of this code.))

The code official may approve an alternate material, method of construction, design or insulating system, provided the code official finds that the proposed alternate complies with the provisions of this code, and that the alternate, when considered together with other safety features of the building or other relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety and sanitation.

The code official may require that sufficient evidence or proof be submitted to reasonably substantiate any claims regarding the use or suitability of the alternate. The code official may, but is not required to, record the approval of modifications and any relevant information in the files of the code official or on the approved permit plans.

C102.2 Modifications. The *code official* may modify the requirements of this code for individual cases provided the *code official* finds: (1) there are practical difficulties involved in carrying out the provisions of this code; (2) the modification is in conformity with the intent and purpose of this code; (3) the modification will provide a reasonable level of fire protection and structural integrity when considered together with other safety features of the building or other relevant circumstances, and (4) the modification maintains or improves the energy efficiency of the building. The *code official* may, but is not required to, record the approval of modifications and any relevant information in the files of the *code official* or on the approved permit plans.

## SECTION C103 <u>APPLICATIONS AND PERMITS</u> ((CONSTRUCTION DOCUMENTS))

C103.1 General. A permit for work performed according to this code shall be obtained in accordance with Chapter 1 of the *International Building Code*. *International Mechanical Code* or *Seattle Electrical Code*.

C103.2 Construction documents. Construction documents and other supporting data shall comply with this section and the International Building Code, International Mechanical Code, International Existing Building Code and Seattle Electrical Code. ((be submitted in one or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the code official is authorized to require necessary construction documents to be prepared by a registered design professional.))

((Exception: The code official is authorized to waive the requirements for construction documents or other supporting data if the code official determines they are not necessary to confirm compliance with this code.))

C103.2.1 Information on construction documents. Construction documents shall be drawn to scale upon suitable material. Electronic media documents are permitted to be submitted when *approved* by the *code official*. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in sufficient detail pertinent data and features of the

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building, systems and equipment as herein governed. Details shall include, but are not limited to, as applicable, insulation materials and their *R*-values; fenestration *U*-factors and SHGCs; area-weighted *U*-factor and SHGC calculations; mechanical system design criteria; mechanical and service water heating system and equipment types, sizes and efficiencies; economizer description; equipment and systems controls; fan motor horsepower (hp) and controls; duct sealing, duct and pipe insulation and location; lighting fixture schedule with wattage and control narrative; and air sealing details.

((C103.3 Examination of documents. The code official shall examine or cause to be examined the accompanying construction documents and shall ascertain whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.))

((C103.3.1 Approval of construction documents. When the code official issues a permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "Reviewed for Code Compliance." Such approved construction documents shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the approved construction documents.

One set of construction documents so reviewed shall be retained by the *code official*. The other set shall be returned to the applicant, kept at the site of work and shall be open to inspection by the *code official* or a duly authorized representative.))

((C103.3.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.))

((C103.3.3 Phased approval. The code official shall have the authority to issue a permit for the construction of part of an energy conservation system before the construction documents for the entire system have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holders of such permit shall proceed at their own risk without assurance that the permit for the entire energy conservation system will be granted.))

((C103.4 Amended construction documents. Changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.))

((C103.5 Retention of construction documents. One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.))

#### SECTION C104 INSPECTIONS

**C104.1 General.** Construction or work for which a permit is required shall be subject to inspection by the *code official* in accordance with this section and the *International Building* Code, International Mechanical Code and Seattle Electrical Code.

**C104.2 Required approvals.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the *code official*. The *code official*, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the *code official*.

Where applicable, inspections shall include at least the requirements of Sections C104.2.1, C104.2.2, and C104.2.3.

#### C104.2.1 Envelope.

**C104.2.1.1** Wall insulation inspection. To be made after all wall insulation and air vapor retarder sheet or film materials are in place, but before any wall covering is placed.

**C104.2.1.2 Glazing inspection.** To be made after glazing materials are installed in the building.

**C104.2.1.3 Exterior roofing insulation.** To be made after the installation of the roof insulation, but before concealment.

**C104.2.1.4 Slab/floor insulation.** To be made after the installation of the slab/floor insulation, but before concealment.

#### C104.2.2 Mechanical.

**C104.2.2.1 Mechanical equipment efficiency and economizer.** To be made after all equipment and controls required by this code are installed and prior to the concealment of such equipment or controls.

**C104.2.2.2** Mechanical pipe and duct insulation. To be made after all pipe and duct insulation is in place, but before concealment.

#### C104.2.3 Lighting and motors.

**C104.2.3.1 Lighting equipment and controls.** To be made after the installation of all lighting equipment and controls required by this code, but before concealment of the lighting equipment.

**C104.2.3.2 Motor inspections.** To be made after installation of all equipment covered by this code, but before concealment.

**C104.3 Final inspection.** The building shall have a final inspection and not be occupied until *approved*.

**C104.4 Reinspection.** A building shall be reinspected when determined necessary by the *code official*.

**C104.5 Approved inspection agencies.** The *code official* is authorized to accept reports of *approved* inspection agencies,

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provided such agencies satisfy the requirements as to qualifications and reliability.

**C104.6 Inspection requests.** It shall be the duty of the holder of the permit or their duly authorized agent to notify the *code official* when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

**C104.7 Reinspection and testing.** Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then be resubmitted to the *code official* for inspection and testing.

((C104.8 Approval. After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the *code official*.))

((C104.8.1 Revocation. The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.))

#### SECTION C105 VALIDITY

**C105.1** General. If a portion of this code is held to be illegal or void, such a decision shall not affect the validity of the remainder of this code.

#### SECTION C106 REFERENCED STANDARDS

**C106.1 Referenced codes and standards.** The codes and standards referenced in this code shall be those listed in Chapter 5, and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections C106.1.1 and C106.1.2.

C106.1.1 References to other codes. Whenever an International, National or Uniform Code is referenced in this code, it means the Seattle edition of that code, which includes local amendments. References to the "Building Code", "Residential Code", "Fire Code", "Electrical Code", "Mechanical Code" and "Plumbing Code" mean the Seattle editions of those codes. ((Conflicts. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.))

C106.1.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code or standard.

**C106.2 Conflicting requirements.** Where the provisions of this code and the referenced standards conflict, the provisions of this code shall take precedence.

**C106.3 Application of references.** References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

C106.4 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law. ((In addition to the requirements of this code, all occupancies shall conform to the provisions included in the State Building Code (chapter 19.27 RCW). In case of conflicts among the codes enumerated in RCW 19.27.031 (1) through (4) and this code, an earlier named code shall govern over those following.)) In the case of conflict between the duct sealing and insulation requirements of this code and the duct insulation requirements of Sections 603 and 604 of the *International Mechanical Code*, the duct insulation requirements of this code, or where applicable, a local jurisdiction's energy code, shall govern.

#### SECTION C107 FEES

C107.1 Fees. A fee for each permit and for other activities related to the enforcement of this code shall be paid as set forth in the Fee Subtitle, *Seattle Municipal Code* Title 22, Subtitle IX. ((A permit shall not be issued until the fees prescribed in Section C107.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.))

((C107.2 Schedule of permit fees. A fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.))

((C107.3 Work commencing before permit issuance. Any person who commences any work before obtaining the necessary permits shall be subject to an additional fee established by the *code official*, which shall be in addition to the required permit fees.))

((C107.4 Related fees. The payment of the fee for the construction, *alteration*, removal or demolition of work done in connection to or concurrently with the work or activity authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.))

((C107.5 Refunds. The *code official* is authorized to establish a refund policy.))

#### SECTION C108 ((STOP WORK ORDER)) ENFORCEMENT

C108.1 Authority. The code official is authorized to enforce this code in accordance with the International Building Code. International Mechanical Code and Seattle Electrical Code. ((Whenever the code official finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the code official is authorized to issue a stop work order.))

((C108.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, or to

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the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.))

((C108.3 Emergencies. Where an emergency exists, the *code* official shall not be required to give a written notice prior to stopping the work.))

((C108.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine as established by the applicable governing entity.))

#### SECTION C109 ((BOARD OF APPEALS)) ADMINISTRATIVE REVIEW

14 C109.1 Administrative review by the code official. Prior to issuance of the building permit, applicants may request administrative review by the code official of decisions or actions pertaining to the administration and enforcement of this code. Requests shall be addressed to the code official.

C109.2 Administrative review by the Construction Codes Advisory Board. After administrative review by the building official, and prior to issuance of the building permit, applicants may request review by the Construction Codes Advisory Board of decisions or actions pertaining to the application and interpretation of this code. The review will be performed by a panel of three or more members of the Construction Codes Advisory Board, chosen by the Board Chair. The Chair shall consider the subject of the review and members' expertise when selecting members to conduct a review. The decision of the review panel is advisory only; the final decision is made by the *code official*.

((General. In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The code official shall be an ex officio member of said board but shall have no vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official.))

((C109.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code.))

((C109.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction.))

#### SECTION C110 VIOLATIONS

**C110.1 General.** It shall be unlawful for any person, firm or corporation to erect or construct any building, or remodel or rehabilitate any existing building or structure in the state, or allow the same to be done, contrary to or in violation of any of the provisions of this code. <u>Violations shall be administered according to the procedures set forth in Section 103 of the *International Building Code*.</u>

#### SECTION C111 LIABILITY

C111.1 General. Nothing contained in this code is intended to be nor shall be construed to create or form the basis for any liability on the part of any city or county or its officers, employees or agents for any injury or damage resulting from the failure of a building to conform to the provisions of this code, or by reason or as a consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this code, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this code by its officers, employees or agents.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or property caused by defects, nor shall the Department of Planning and Development or the City of Seattle be held to have assumed any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

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