**Section 600.APPENDIX B Illinois Commercial Stretch Energy Code Amendments to the 2024 International Energy Conservation Code Final Draft**

The following Code sections shall be referenced in place of the corresponding 2024 IECC Final Draft sections.

**CHAPTER 1 [CE] SCOPE AND ADMINISTRATION**

**User note:**

**About this chapter:** [**Chapter 1**](#_bookmark2) establishes the limits of applicability of the code and describes how the code is to be applied and enforced. [**Chapter 1**](#_bookmark2) is in two parts: Part 1 − Scope and Application and Part 2 − Administration and Enforcement. [**Section C101**,](#_bookmark5) identifies what buildings, systems, appliances and equipment fall under its purview and references other I-Codes as applicable. Standards and codes are scoped to the extent referenced.

The code is intended to be adopted as a legally enforceable document and it cannot be effective without adequate provisions for its administration and enforcement. The provisions of [**Chapter 1**](#_bookmark2) establish the authority and duties of the code official appointed by the authority having jurisdiction and also establish the rights and privileges of the design professional, contractor and property owner.

**PART 1 − SCOPE AND APPLICATION**

**SECTION C101**

**SCOPE AND GENERAL REQUIREMENTS**

**C101.1 Title.** This code shall be known as the 2023 Illinois Commercial Stretch Energy Code and shall mean:

With respect to the State facilities covered by 71 Ill. Adm. Code 600.Subpart B:

This Part, all additional requirements incorporated within Subpart B (including the 2024 International Energy Conservation Code Final Draft Commercial Provisions, including all published errata but excluding published supplements that encompass ASHRAE 90.1-2022), and any statutorily authorized adaptations to the incorporated standards adopted by CDB are effective 7/1/24.

With respect to the privately funded commercial facilities covered by 71 Ill. Adm. Code 600.Subpart C:

This Part, all additional requirements incorporated within Subpart C (including the 2024 International Energy Conservation Code Final Draft Commercial Provisions, including all published errata and excluding published supplements that encompass ASHRAE 90.1-2022), and any statutorily authorized adaptations to the incorporated standards adopted by CDB is effective upon adoption by a Municipality and takes the place of the Illinois Energy Conservation Code with respect to commercial buildings.

No unit of local government, including any home rule unit, may regulate energy efficient building standards for commercial buildings in a manner that is less stringent than the standards established pursuant to this Illinois Commercial Stretch Energy Code.

**C101.1.1 Adoption.** The Board shall adopt amendments to this Code and include site energy index standards as established in the Energy Efficient Building Act [20 ILCS 3125/55] as follows:

By June 30, 2024 with a site energy index no greater than .60 of the 2006 IECC;

By December 31, 2025 with a site energy index no greater than .50 of the 2006 IECC;

By December 31, 2028 with a site energy index no greater than .44 of the 2006 IECC;

By December 31, 2031 with a site energy index no greater than .39 of the 2006 IECC.

**C101.2 Scope.** This code applies to the design and construction of buildings not covered by the scope of the IECC – Residential Provisions.

**C101.2.1 Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

**C101.3 Intent.** The International Energy Conservation Code − Commercial Provisions provide market-driven, enforceable requirements for the design and construction of commercial buildings, providing minimum efficiency requirements for buildings that result in the maximum level of energy efficiency that is safe, technologically feasible, and life cycle cost effective, considering economic feasibility, including potential costs and savings for consumers and building owners, and return on investment. Additionally, the code provides jurisdictions with supplemental requirements, including ASHRAE 90.1, and optional requirements that lead to achievement of zero energy buildings, presently, and through glidepaths that achieve zero energy buildings by 2030 and on additional timelines sought by governments, and achievement of additional policy goals as identified by the Energy and Carbon Advisory Council and approved by the Board of Directors. Requirements contained in the code will include, but not be limited to, prescriptive- and performance-based pathways. The code may include non-mandatory appendices incorporating additional energy efficiency and greenhouse gas reduction resources developed by the Code Council and others. The code will aim to simplify code requirements to facilitate the code's use and compliance rate. The code is updated on a three-year cycle with each subsequent edition providing increased energy savings over the prior edition. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this intent. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

**C101.4 Compliance.** Commercial buildings shall meet the provisions of the Illinois Commercial Stretch Energy Code covered by 71 Ill. Adm. Code 600 Subpart C. The local authority having jurisdiction (AHJ) shall establish its own procedures for enforcement of the Illinois Commercial Stretch Energy Code. Minimum compliance shall be demonstrated by submission of:

**C101.4.1 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; or

**C101.4.2 Professional seals.** The seal of the architect/engineer as required by Section 14 of the Illinois Architectural Practice Act [225 ILCS 305], Section 12 of the Structural Engineering Licensing Act [225 ILCS 340] and Section 14 of the Illinois Professional Engineering Practice Act [225 ILCS 325]; or

**C101.4.3 COMcheck.**TM Compliance Certificates generated by the U.S. Department of Energy's COMcheckTM Code compliance tool.

**SECTION C102**

**APPLICABILITY**

**C102.1 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.

**C102.1.1 Mixed residential and commercial buildings.** Where a building includes both residential building and commercial building portions, each portion shall be separately considered and meet the applicable provisions of Illinois Commercial Stretch Energy Code or the Illinois Residential Stretch Energy Code.

**C102.2 Other laws.** The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

**C102.3 Applications 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.

**C102.4 Referenced codes and standards.** The codes and standards referenced in this code shall be those listed in [Chapter 6](#_bookmark488), 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 C102.4.1](#_bookmark14) and C102.4.2.

**C102.4.1 Conflicts.** Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

**C102.4.2 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.

**C102.5 Partial invalidity.** 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.

**PART 2 − ADMINISTRATION AND ENFORCEMENT**

**SECTION C103**

**ALTERNATIVE MATERIALS, DESIGN AND METHODS OF**

**CONSTRUCTION AND EQUIPMENT**

**C103.1 General.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. The code official shall have the authority to approve an alternative material, design or method of construction upon the written application of the owner or the owner's authorized agent. The code official shall first find that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability, energy conservation and safety. The code official shall respond to the applicant, in writing, stating the reasons why the alternative was approved or was not approved.

**C103.1.1 Above code programs.** Buildings certified in compliance with Passive House Institute (PHI) or Passive House Institute U.S. (PHIUS) programs, or buildings that comply with Appendix CC, shall be deemed to meet the requirements of this code where such buildings also meet the requirements identified in Table C407.2(1).

**SECTION C104**

**CODE COMPLIANCE AGENCY**

**C104.1 Creation of enforcement agency.** The [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the authority having jurisdiction (AHJ). The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.

**C104.2 Appointment.** The authority having jurisdiction (AHJ) shall be appointed by the chief appointing authority of the jurisdiction.

**C104.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the authority having jurisdiction (AHJ) shall have the authority to appoint a deputy authority having jurisdiction (AHJ), other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the authority having jurisdiction (AHJ).

**SECTION C105**

**CONSTRUCTION DOCUMENTS**

**C105.2.2 Electrification system.** The construction documents shall provide details for additional electric infrastructure, including branch circuits, conduit, pre-wiring, panel capacity, and electrical service capacity, as well as interior and exterior spaces designated for future electric equipment, in compliance with the provisions of this code.

**SECTION C107**

**INSPECTIONS**

**C107.2.5 Electrical system.** Inspection shall verify lighting system controls, components, meters, and electric infrastructure as required by the code, approved plans and specifications. Where an electrical energy storage system area is required, inspections shall verify space availability and pathways to electrical service.

**SECTION C202**

**GENERAL DEFINITIONS**

**2024 INTERNATIONAL ENERGY CONSERVATION CODE FINAL DRAFT.** The draft version of the 2024 IECC which includes changes from Public Comment Draft #2 and approved proposals from the Committee Action Report.

**COMMERCIAL COOKING APPLIANCE.** Appliances used in a commercial food service establishment for heating or cooking food. For the purpose of this definition, a commercial food service establishment is where food is regularly prepared for sale or is prepared on a scale that is by volume and frequency not representative of domestic household cooking.

**ELECTRIC VEHICLE CAPABLE SPACE (EV CAPABLE SPACE).** An automobile parking space provided with electrical infrastructure including raceway or cable assemblies, electrical capacity, and electrical distribution equipment space, necessary for connection to an EVSE.

**REPLACEMENT COST.** The cost to construct or replace an entire building with equal quality, construction type, and square footage, at current construction market labor and material rates.

**SUBSTANTIAL IMPROVEMENT.** Any repair, reconstruction, rehabilitation, alteration, addition or other improvement of a building or structure, the cost of which equals or is more than 50% of the market value replacement cost of the structure before the improvement or repair is started. Where the structure has sustained substantial damage, as defined in the International Building Code, any repairs are considered substantial improvement regardless of the actual repair work performed. Substantial improvement does not include the following:

1. Improvement of a building ordered by the code official to correct health, sanitary or safety code violations and that are the minimum necessary to assure safe living conditions.

2. Alteration of a historic building where the alteration will not affect the designation as a historic structure.

**SECTION C401**

**GENERAL**

**C401.2 Application.** Commercial buildings shall comply with Section C401.2.1 or C401.2.2.

**C401.2.1** Commercial buildings shall comply with one of the following:

1. Prescriptive Compliance. The Prescriptive Compliance option requires compliance with Sections C402 through C406 and Section C408. Dwelling units and sleeping units in Group R-2 buildings shall be deemed to be in compliance with this chapter, provided that they comply with Section R406.

2. Simulated Building Performance. The Simulated Building Performance option requires compliance with Section C407.

**Exception:** Additions, alterations, repairs and changes of occupancy to existing buildings complying with Chapter 5.

**C401.2.2 ASHRAE 90.1.** Commercial buildings shall comply with the requirements of ANSI/ASHRAE/IES 90.1, Appendix CI, and the requirements of the sections indicated within Table C401.2.2.

**TABLE C401.2.2 REQUIREMENTS FOR ASHRAE 90.1 COMPLIANCE**

|  |  |
| --- | --- |
| **SECTIONa** | **TITLE** |
| **New Construction** |
| C405.4 | Horticultural lighting |
| C405.14 | Electric Vehicle Power Transfer Infrastructure |
| C405.16 | Electrical energy storage system |
| C405.18 | Electric infrastructure |
| **Additions and Alterations** |
| C502.3.7 | Additional energy efficiency credits |
| C503.3.4 | Mechanical system acceptance testing |
| C503.3.5 | Duct testing |
| C503.3.6 | Controls |
| C503.3.7 | System sizing |
| C503.6 | Additional energy efficiency credits |
| C505.1.3 | Additional energy efficiency for changes of occupancy |

a Reference to a code section includes all the relative subsections as indicated in the table.

**SECTION C402**

**BUILDING THERMAL ENVELOPE REQUIREMENTS**

**C402.5.1.3 Fenestration orientation.**

The vertical fenestration shall comply with either equation (a) or (b):

a. AW ≤ (AT)/4 and AE ≤ (AT)/4

b. AW × SHGCW ≤ (AT × SHGCC)/5 and AE × SHGCE ≤ (AT × SHGCC)/5

Where:

|  |  |  |
| --- | --- | --- |
| AW | = | West-oriented vertical fenestration area (oriented within 45 degrees of true west to the south and within 22.5 degrees of true west to the north in the Northern Hemisphere) |
| AE | = | East-oriented vertical fenestration area (oriented within 45 degrees of true east to the south and within 22.5 degrees of true east to the north in the Northern Hemisphere) |
| AT | = | Total vertical fenestration area |
| SHGCC | = | SHGC criteria in Table C402.5 |
| SHGCE | = | SHGC for east-oriented fenestration |
| SHGCW | = | SHGC for west-oriented fenestration |

**Exceptions:**

1. Buildings with shade on 75% of the east-oriented and west-oriented vertical fenestration areas from permanent projections, existing buildings, existing permanent infrastructure, or topography at 9 a.m. and 3 p.m., respectively, on the summer solstice (June 21).

2. Alterations and additions with no increase in vertical fenestration area.

3. Buildings where the east-oriented and west-oriented vertical fenestration area does not exceed 20% of the gross wall area for each of those façades, and SHGC on those facades is no greater than 90% of the criteria in Table C402.5.

**SECTION C405**

**ELECTRICAL POWER AND LIGHTING SYSTEMS**

**C405.4 Horticultural lighting.** Permanently installed luminaires shall have a photosynthetic photon efficacy of not less than 1.7 μmol/J for horticultural lighting in greenhouses and not less than 2.2 μmol/J for all other horticultural lighting. Luminaires for horticultural lighting in greenhouses shall be controlled by a device that automatically turns off the luminaire when sufficient daylight is available. Luminaires for horticultural lighting shall be controlled by a device that automatically turns off the luminaire at specific programmed times.

**Exception:** Cannabis facilities subject to 410 ILCS 705/10-45 − the Cannabis Regulation and Tax Act.

**C405.14.2 EV Capable spaces.** Each EV capable space used to meet the requirements of Section C405.14.1 shall comply with the following:

1. A continuous raceway or cable assembly shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the EV capable space and electrical distribution equipment.

2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with C405.14.5.

3. The electrical distribution equipment to which the raceway or cable assembly connects shall have dedicated overcurrent protection device space and electrical capacity to supply a calculated load in accordance with Section C405.14.5.

4. The enclosure or outlet and the electrical distribution equipment directory shall be marked: "For electric vehicle supply equipment (EVSE)."

**C405.14.6 EVSE installation**. EVSE shall be installed in accordance with NFPA 70 and shall be listed and labeled in accordance with UL 2202 or UL 2594. EVSE shall be accessible in accordance with the 2024 edition of the International Building Code Section 1107.

**C405.16 Electrical energy storage system.** Buildings shall comply with Section C405.16.1 or Section C405.16.2. Buildings shall comply with Section C405.16.3.

**C405.16.1 Electrical energy storage system (ESS) capacity.** Each building shall have one or more ESS with a total rated energy capacity and rated power capacity as follows:

1. ESS rated energy capacity (kWh)≥1.0 x Installed On-site Renewable Electric Energy System Rated Power (kWDC)

2. ESS rated power capacity (kW)≥0.25 x Installed On-Site Renewable Electric Energy System Rated Power (kWDC).

Where installed, DC coupled battery systems shall meet the requirements for rated energy capacity alone.

**C405.16.2 Electrical energy storage system ready.** Each building shall have one or more reserved ESS-ready areas to accommodate future electrical storage.

**C405.16.3 Electrical energy storage installed or ready area.** Areas where ESS is installed and ESS-ready areas shall comply with Sections C405.16.3.1 through C405.16.3.4.

**C405.16.3.1 ESS installed or ready location.** Each ESS installed or ready area shall be located in accordance with either Section 1207 of the 2024 International Fire Code or NFPA 855. For the purposes of locating and designing means of egress, ESS-installed or ready areas shall comply with either i) means of egress requirements for H-Occupancies of the 2024 International Fire Code or ii) Sections 7.2.1.4.2(3) and 7.11 of NFPA 101 (2015).

**C405.16.3.2 ESS installed or ready minimum area requirements.** Each ESS installed or ready area shall be sized in accordance with the spacing requirements of (i) either Section 1207 of the 2024 edition of the International Fire Code or NFPA 855 and (ii) the UL9540 or UL9540A designated rating of the planned system. Where rated to UL9540A, the area shall be sized in accordance with the manufacturer's instructions.

**C405.16.3.3 Electrical distribution equipment.** The onsite electrical distribution equipment shall have sufficient capacity, rating, and space to allow installation of overcurrent devices and circuit wiring in accordance with NFPA 70 for actual or future electrical ESS installation complying with the capacity criteria of Section C405.16. 3.4.

**C405.16.3.4 ESS installed or ready minimum system capacity.** Compliance with ESS-ready requirements in Sections C405.16.3.1 through C405.16.3.3 shall be based on a minimum total energy capacity and minimum rated power capacity as follows:

1. ESS rated energy capacity (kWh) ≥ gross conditioned floor area of the three largest floors (ft2) x 0.0008 kWh/ft2

2. ESS rated power capacity (kWh) ≥ gross conditioned floor area of the three largest floors (ft2) x 0.0002 kWh/ft2

**C405.18 Electric infrastructure.** New group R-2 occupancies that use fossil fuels for space heating, service water heating, cooking, or clothes drying shall install electric infrastructure in accordance with C405.18.1 through C405.18.5 and Section C105.2.2.

**C405.18.1 Space heating.** Locations with piping for fossil fuel warm-air furnaces and fossil fuel boilers shall comply with Section C405.18.1.1 or C405.18.1.2, as applicable.

**Exception to C405.18.1:** Where a branch circuit exists for space cooling equipment with the capacity to serve heat pump space heating equipment sized in accordance with the requirements of Section C403.1.1.

**C405.18.1.1 Low-capacity space heating.** Locations of fossil fuel warm-air furnaces with capacity less than 225,000 Btu/hr (65.9kW) and boilers with a capacity less than 300,000 Btu/hr (88kW) shall be provided with an individual branch circuit in accordance with all of the following:

1. The branch circuit conductors shall terminate within 6 ft (2 m) of the location of the space heating equipment and shall be in a location with ready access.

2. The branch circuit shall be sized to serve heat pump space heating equipment sized in accordance with the requirements of Section C403.1.1, and

3. The branch circuit overcurrent device and the termination of the branch circuit shall be labeled "For future heat pump space heating equipment".

**C405.18.1.2 Other space heating equipment.** Locations of fossil fuel space heating equipment not covered under C405.18.1.1 shall be provided with a raceway in accordance with all of the following:

1. The raceway shall be continuous from a branch circuit panel to a junction box located within the same space as the equipment or, where the equipment is located on the exterior of the building, within 3 ft (1m) of the equipment.

2. The junction box, raceway, bus bar in the electric panel and conductors serving the electrical panel shall be sized to serve electric space heating equipment sized to serve the same load as the fossil fuel space heating equipment.

3. The electrical panel shall have sufficient reserved physical space for branch circuit overprotection devices sized to serve electric equipment sized to serve the same load as the fossil fuel space heating appliance,

4. The point of origin and the termination of the raceway shall be labeled “For future heat pump space heating equipment.”

**C405.18.2 Water heating.** Locations with piping for fossil fuel water heaters shall comply with Section C405.18.2.1 or C405.18.2.2, as applicable.

**C405.18.2.1 Low-capacity water heating.** Locations of fossil fuel water heaters with an input rating of less than 300,000 Btu/hr (88kW) shall comply with all of the following:

1. An individual 30 ampere, 208/240-volt branch circuit shall be provided and terminate within 6 ft (2 m) of the water heater and shall be in a location with ready access.

2. The branch circuit overcurrent protection device and the termination of the branch circuit shall be labeled "For future electric water heater".

3. The space for containing the future water heater shall have a height of not less than 7 ft (2 m), a width of not less than 3 ft (1 m), a depth of not less than 3ft (1 m) and with a volume of not less than 700 ft3 (20 m3).

**Exception to C405.18.2.1:** Where the space containing the water heater provides for air circulation sufficient for the operation of a heat pump water heater, the minimum room volume shall not be required.

**C405.18.2.2 Other water heating.** Locations of fossil fuel water heating equipment not covered by Section C405.18.2.1 shall be provided with a raceway in accordance with all of the following:

1. The raceway shall be continuous from an electric panel to a junction box located within the same space as the equipment or, where the equipment is located on the exterior of the building, within 3 ft (1m) of the equipment.

2. The junction box, raceway, and bus bar in the electric panel and conductors serving the electric panel shall be sized to accommodate electric water heating equipment sized to serve the same load as the fossil fuel water heating equipment.

3. The electric panel shall have sufficient reserved physical space for branch circuit overprotection devices sized to serve electric water heating equipment sized to serve the same load as the fossil fuel water heating equipment.

4. The point of origin and termination of the raceway shall be labeled "For future electric water heating appliance."

**C405.18.3 Non-commercial cooking.** Locations of fossil fuel ranges, cooktops and ovens that are not commercial cooking appliances shall be provided with a dedicated individual branch circuit in accordance with all of the following:

1. The branch circuit shall be rated for 208/240-volts and not less than 50 amps.

2. The branch circuit shall terminate within 3 ft (1 m) of the appliance and shall be in a location with ready access.

3. The point of origin and termination of the branch circuit shall be labeled "For future electric cooking appliance."

**C405.18.4 Clothes drying.** Locations with piping for fossil fuel clothes drying equipment shall comply with C405.18.4.1 or C405.18.4.2, as applicable.

**C405.18.4.1 Residential drying.** Locations of fossil fuel clothes drying appliances serving individual dwellings units shall be provided with a dedicated individual branch circuit in accordance with all of the following:

1. The branch circuit shall be rated for 208/240-volts and not less than 30 amps.

2. The branch circuit shall terminate within 3 ft (1 m) of the appliance and shall be in a location with ready access.

3. The point of origin and termination of the branch circuit shall be labeled "For future electric clothes drying appliance."

**C405.18.4.2 Non-residential drying.** Locations of fossil fuel clothes drying appliances not covered by Section C405.18.4.1 shall be provided with a raceway in accordance with all of the following:

1. The raceway shall be continuous from an electric panel to a junction box located within the same space as the appliance.

2. The junction box, raceway, electric panel bus bar and conductors serving the electric panel shall be sized to serve electric clothes drying appliances having the same drying capacity as the fossil fuel appliance.

3. The electric panel shall have sufficient reserved physical space for branch circuit overprotection devices sized to serve electric clothes drying appliances sized to serve the same load as the fossil fuel clothes drying appliances.

4. The point of origin and termination of the raceway shall be labeled "For future electric clothes drying appliance".

**C405.18.5 Onsite transformers.** Enclosed spaces and underground vaults containing onsite electric transformers on the building side of the electric utility meter shall have sufficient space to accommodate transformers sized to serve the additional electric loads identified in C405.18.1, C405.18.2, C405.18.3 and C405.18.4.

**SECTION C406**

**ADDITIONAL EFFICIENCY, RENEWABLE, AND LOAD**

**MANAGEMENT REQUIREMENTS**

**C406.1.1 Additional energy efficiency credit requirements.** Buildings shall comply with measures from C406.2 to achieve not less than the number of required efficiency credits from Table C406.1.1(1) based on building occupancy group and climate zone including any energy credit adjustments in accordance with C406.1.1.1. Where a project contains multiple occupancies, the total required energy credits from each building occupancy shall be weighted by the gross conditioned floor area to determine the weighted average project energy credits required. Accessory occupancies shall be included with the primary occupancy group for purposes of Section C406.

**Exception:**

1. Portions of buildings devoted to manufacturing or industrial use.

**SECTION C407**

**SIMULATED BUILDING PERFORMANCE**

**C407.2 Mandatory requirements.** Compliance based on total building performance requires that a proposed design meet all of the following:

1. The requirements of the sections indicated within Table C407.2(1).

2. A site energy use that is less than or equal to the percent of the site energy use (SEUC) of the standard reference design calculated in Equation 4-32. The reduction in site energy use of the proposed design associated with on-site and off-site renewable energy shall not be included in the total site energy use.

|  |  |  |
| --- | --- | --- |
| PSEUC | = | 100 x (0.80 +0.25- ECr/1000) (Equation 4-32) |
| PSEUC | = | Percentage of site energy use applied to standard reference design  |
| ECr | = | Energy efficiency credits required for the building in accordance with Section C406.1 (do not include load management and renewable credits) |

Modify Table C407.2(1) as follows:

**TABLE C407.2(1)**

**REQUIREMENTS FOR SIMULATED BUILDING PERFORMANCE**

|  |  |
| --- | --- |
| SECTIONa | TITLE |
|  |  |
| Envelope |
| C402.5.1.3 | Fenestration Orientation |

a. Reference to a code section includes all the relative subsections except as indicated in the table.

Modify Table C407.4.1(1) as follows:

**TABLE C407.4.1(1)**

**SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

|  |  |  |
| --- | --- | --- |
| Vertical fenestration other than opaque doors | Area1. The proposed vertical fenestration area; where the proposed vertical fenestration area is less than 40% of the above-grade wall area.2. 40% of above grade wall area; where the proposed vertical fenestration area is 40% or more of the above grade wall area 3. Fenestration orientation shall comply with Section C402.5.1.3 | As proposed |
| U-factor: as specified in Table C402.5 | As proposed |
| 1. SHGC: as specified in Table C402.5 except that for climates with no requirement (NR) SHGC = 0.40 shall be used.2. Fenestration SHGC shall comply with Section C402.5.1.3 | As proposed |
| External shading and PF: none | As proposed |

**SECTION C503**

**ALTERATIONS**

**C503.6 Additional credit requirements for alterations.** Alterations that are substantial improvements shall comply with measures from Sections C402.5 and C405.18 and meet a site EUI by building type in accordance with ASHRAE Standard 100 Table 7-2a. Replacement cost shall be determined by a registered design professional or approved agency and approved by the code official. Where a project contains multiple occupancies,site EUI requirements shall be weighted by the gross conditioned floor area to determine the weighted average site EUI required. Accessory occupancies, other than Groups F or H, shall be included with the primary occupancy group for the purposes of this section.

**Exceptions:**

1. Alterations that do not contain conditioned space.

2. Portions of buildings devoted to manufacturing or industrial use.

3. Alterations to buildings where the building after the alteration complies with Section C407.

4. Alterations that are permitted with an addition complying with Section C502.3.7.

5. Group R occupancies that achieve an ERI score of 80 or below without on-site renewable energy included in accordance with RESNET/ICC 301, for each dwelling unit.

**SECTION C505**

**CHANGE OF OCCUPANCY OR USE**

**C505.1.3 Additional energy efficiency for changes of occupancy.** Where a space is converted from one occupancy type to another occupancy type, it shall comply with Section C406.1.1.1.

**Exceptions:**

1. Alterations complying with Section C503.6.

2. Where no less than 50% of the peak space heating and peak water heating load of the building is served by heat pump equipment.

**Appendix CD**

**The 2030 Glide Path**

Remove Section CD101.1 Prescriptive compliance and Table CD101.1 in their entirety.

**Appendix CG**

**All-Electric Commercial Building Provisions**

This appendix is removed and is not included in the Illinois Commercial Stretch Energy Code.

**Appendix CI**

**Total Building Performance Pathway**

**CI101 Scope.** This section establishes criteria for buildings that demonstrate compliance using total building performance utilizing site energy in accordance with Section 4.2.1.1 of ANSI/ASHRAE/IESNA 90.1.

**CI102 Compliance based on site energy.** Buildings shall comply with ANSI/ASHRAE/IESNA 90.1 as modified by this section.

**CI102.1 Terms.** For the purposes of compliance with this appendix, terminology in ANSI/ASHRAE/IESNA 90.1 shall be modified as follows:

1. Replace references to energy cost with references to site energy in Sections G1.2.2, G1.3.2, G2.1, G2.5 and G2.4.2 section heading.

2. Baseline building performance shall be defined as "the annual site energy cost for a building design intended for use as a baseline for rating above-standard design or when using the Performance Rating Method as an alternative path for minimum standard compliance in accordance with Section 4.2.1.1".

3. Proposed building performance shall be defined as “the annual site energy calculated for a proposed design."

**CI102.2 Section 4.2.1.1.** Section 4.2.1.1 shall be replaced with the following:

New buildings shall comply with Section 4.2.2 through 4.2.5 and either the provisions of:

a. Sections 5, "Building Envelope"; 6, "Heating, Ventilating, and Air Conditioning"; 7, "Service Water Heating"; 8, "Power"; 9, "Lighting"; 10, "Other Equipment"; and 11, "Additional Efficiency Requirements"; or

b. Normative Appendix G, "Performance Rating Method".

When using Normative Appendix G, the Performance Index (Site Energy) of new buildings, additions to existing buildings, and/or alterations to existing buildings shall be less than or equal to the Performance Index Target (PI t) when calculated in accordance with the following:

PIt = [BBUE + (BPFsite × BBRE)- PRE] / BBP

Where:

|  |  |  |
| --- | --- | --- |
| PI | = | Performance Index (Site Energy) calculated in accordance with Section G1.2. |
| BBUE | = | Baseline building unregulated site energy, the portion of the annual site energy of a baseline building design that is due to unregulated energy use. |
| BBRE | = | baseline building regulated site energy, the portion of the annual site energy cost of a baseline building design that is due to regulated energy use. |
| BPF | = | building performance factor from Table 4.2.1.1. For building area types not listed in Table 4.2.1.1 use "All others." Where a building has multiple building area types, the required BPF shall be equal to the area-weighted average of the building area types based on their gross floor area. Where a project includes an existing building and an addition, the required BPF shall be equal to the area-weighted average, based on the gross floor area, of the existing building BPF determined as described in Section 4.2.1.3 and the addition BPF from Table 4.2.1.1. |
| BBP | = | Baseline building performance. |
| PBP | = | Proposed building performance, including the reduced, annual site energy associated with all on-site renewable energy generation systems. |
| PBPnre | = | Proposed building performance without any credit for reduced annual energy from on-site renewable energy generation systems. |
| PBPpre | = | Proposed building performance, excluding any renewable energy system in the proposed design and including an on-site renewable energy system that meets but does not exceed the requirements of Section 10.5.1.1 modeled following the requirements for a budget building design in Table 12.5.1. |
| PRE |  | PBPnre – PBPpre |

When (PBPpre – PBP)/BBP > 0.05, new buildings, additions to existing buildings, and/or alterations to existing buildings shall comply with the following:

PCSEI + [(PBPnre – PBP)/BBP] – 0.05 < PCSEIt

When (PBPpre – PBP)/BBP > 0.05, new buildings, additions to existing buildings, and/or alterations to existing buildings shall comply with the following:

PCI + [(PBPpre – PBP)/BBP] – 0.05 < PCIt

**Informative Notes:**

1. PBPnre = proposed building performance, no renewable energy

2. PBPpre = proposed building performance, prescriptive renewable energy

3. PRE = prescriptive renewable energy

**CI102.3 Building performance factors.** Table 4.2.1.1 Building Performance Factor (BPF) shall be replaced with Table CI102.3.

**Table CI102.3** Building Performance Factors (BPF), Site Energy

|  |  |
| --- | --- |
| **Building Area Type** | **Climate Zone** |
| **4A** | **5A** |
| Multifamily | 0.61 | 0.56 |
| Healthcare/hospital | 0.62 | 0.65 |
| Hotel/motel | 0.65 | 0.63 |
| Office | 0.47 | 0.49 |
| Restaurant | 0.66 | 0.69 |
| Retail | 0.47 | 0.52 |
| School | 0.42 | 0.44 |
| Warehouse | 0.38 | 0.46 |
| All others | 0.55 | 0.57 |

**CI102.4 Section G1.2.2.** Section G1.2.2 shall be replaced with the following:

The performance of the proposed design is calculated in accordance with provisions of this appendix using the following formula:

|  |  |  |
| --- | --- | --- |
| Performance Site Energy Index | = | Proposed building performance/Baseline building performance |

Both the proposed building performance and the baseline building performance shall include all end-use load components within and associated with the building when calculating the Performance Site Energy Index.

**CI102.5 Section G1.3.2.** Item a. in Section G1.3.2 shall be replaced as follows, and item r. added as follows:

a. The following documentation shall be submitted to the rating authority: The simulation program used, the version of the simulation program, and the results of the energy analysis including the calculated values for the baseline building unregulated site energy (BBUE), baseline building regulated site energy (BBRE), Building Performance Factor (BPF), baseline building performance, the proposed building performance, Performance Site Energy Index (PCSEI), and Performance Site Energy Index Target (PIt).

p. For any exceptional calculation methods employed, document the predicted energy savings by energy type, the site energy savings, a narrative explaining the exceptional calculation method performed, and theoretical or empirical information supporting the accuracy of the method.

**CI102.6 Section G2.4.2.** Section G2.4.2 shall be renamed "Annual Site Energy". The informative note for sections G2.4.2 and G2.4.2.2 shall be removed. The first sentence in section G2.4.2. shall be replaced with the following:

The baseline building performance and proposed building performance shall be determined using conversion factors in Table CI103.6

**Table CI103.6 Units of Fuel to Site Energy Conversion Factors**

|  |  |  |
| --- | --- | --- |
| **Building Project Energy Source**  | **Units** | **Site energy Btu/unit (W-h/unit)** |
| Electricity  | kWh  | 3,412 |
| Natural Gas  | Therm (GJ)  | 100,000 (277,778) |
| Propane  | Therm (GJ)  | 100,000 (277,778) |
| Distillate fuel oil  | Gallon (L)  | 137,600 (10,651) |

**CI102.7 Section G2.5.**  Section G2.5, item e shall be replaced with the following:

e. The Performance Site Energy Index calculated with and without the exceptional calculation method.

(Source: Added at 48 Ill. Reg. 14276, effective January 1, 2025)