2014 SUPPLEMENT TO THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE

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INTRODUCTION

The New York State Energy Conservation Construction Code (the "New York State Energy Code") is promulgated by the State Fire Prevention and Building Code Council (the "Code Council") pursuant to Article 11 of the New York State Energy Law.

The New York Energy Code is contained in Title 19 of the New York Codes, Rules and Regulations (NYCRR), Part 1240, and in the publications incorporated by reference in 19 NYCRR Part 1240. The publications incorporated by reference in 19 NYCRR Part 1240 include the 2010 edition of the *Energy Conservation Construction Code of New York State* (the "2010 ECCCNYS"), the 2012 edition of the *International Energy Conservation Code* (the "2012 IECC"), the 2010 edition of ANSI/ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings* ("ASHRAE 90.1-2010"), this publication (the "2014 Supplement"), and other referenced standards mentioned and/or referred to in 19 NYCRR Part 1240. Basically:

- The Energy Code for residential buildings (the "New York State Residential Energy Code") consists of (1) Chapters 1, 2, 3, 4, and 6 of the 2010 ECCCNYS, as amended by Chapter 1 of this publication, and (2) certain referenced standards incorporated by reference in 19 NYCRR Section 1240.3(b), and
- The Energy Code for commercial buildings (the "New York State Commercial Energy Code") consists of (1) Chapter 1 of the 2010 ECCCNYS, as amended by Chapter 2 of this publication, (2) Chapters C2, C3, and C4in the "Commercial Provisions" of the 2012 IECC, as amended by Chapter 2 of this publication; (3) to the extent provided in Chapter C4 in the "Commercial Provisions" of the 2012 IECC, ASHRAE 90.1-2010, as amended

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by Chapter 3 of this publication; and (3) certain referenced standards referred to in 19 NYCRR Section 1204.4(b).

See 19 NYCRR Part 1240 for a more detailed explanation of the structure of the New York State Energy Code.

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5. Standards published by the United States Department of Energy (DOE)

6. Standards published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)

7. Standards published by Underwriters Laboratories (UL)

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CHAPTER 1

Amendments to the 2010 ECCCNYS

For the purposes of applying the 2010 ECCCNYS in this State, the 2010 ECCCNYS shall be deemed to be amended in the manner specified in this Chapter.

1. 2010 ECCCNYS Chapter 1.

Chapter 1 of the 2010 ECCCNYS is amended by the addition of a new introductory statement immediately preceding section 101, said new introductory statement to read as follows:

INTRODUCTORY STATEMENT

2014 Energy Code Amendment

This publication (the "2010 ECCCNYS") was published in August 2010. Thereafter, in July 2014, the New York State Energy Conservation Construction Code (the "New York State Energy Code") was amended. By virtue of this amendment (the "2014 New York State Energy Code Amendment"):

(1) the New York State Energy Code has been divided into two parts: an energy code for residential buildings (the "New York State Residential Energy Code") and an energy code for commercial buildings (the "New York State Commercial Energy Code");

(2) the New York State Residential Energy Code is now reflected in the publications incorporated by reference in 19 NYCRR section 1240.3; those publications include (i) Chapters 1, 2, 3, 4, and 6 of the 2010 ECCCNYS, as amended by Chapter 1 of the publication entitled the *2014 Supplement to the New York State Energy Conservation Construction Code* (the "2014 Supplement"); and (ii) the referenced standards incorporated by reference in 19 NYCRR section 1240.3(b); and

(3) the New York State Commercial Energy Code is now reflected in the publications incorporated by reference in 19 NYCRR section 1240.4; those publications include (i) Chapter 1 of the 2010 ECCCNYS, as amended by Chapter 1 of the 2014 Supplement; (ii) Chapters C2, C3, and C4 in the "commercial provisions" of the 2012 edition of the *International Energy Conservation Code* (the "2012 IECC"), as amended by Chapter 2 of the 2014 Supplement; (iii) the 2010 edition of *Energy Standard for Buildings Except Low-Rise Residential Buildings* ("ASHRAE 90.1-2010"), as amended by Chapter 3 of the 2014 Supplement; and

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(iv) the referenced standards incorporated by reference in 19 NYCRR section 1240.4(c).

2. 2010 ECCCNYS Section 101.1 (currently entitled "Title").

Section 101.1 of the 2010 ECCCNYS shall be deemed to be retitled and amended to read as follows:

101.1 Titles.

The 2010 edition of the *Energy Conservation Construction Code of New York State* shall be known as the "2010 ECCCNYS."

The 2012 edition of the *International Energy Code* shall be known as the "2012 IECC."

The 2010 edition of *Energy Standard for Buildings Except Low-Rise Residential Buildings* shall be known as "ASHRAE 90.1-2010."

The *2014 Supplement to the New York State Energy Conservation Construction Code* shall be known as the "2014 Supplement."

Chapters 1, 2, 3, 4, and 6 of the 2010 ECCCNYS (as amended by Chapter 1 of the 2014 Supplement) and the referenced standards incorporated by reference in 19 NYCRR Section 1240.3(b) shall be known collectively as the "New York State Residential Energy Code."

Chapter 1 of the 2010 ECCCNYS (as amended by Chapter 1 of the 2014 Supplement), Chapters C2, C3, and C4 in the "commercial provisions" of the 2012 IECC (as amended by Chapter 2 of the 2014 Supplement), ASHRAE 90.1-2010 (as amended by Chapter 3 of the 2014 Supplement), and the referenced standards incorporated by reference in 19 NYCRR Section 1240.4(b), shall be known collectively as the "New York State Commercial Energy Code."

The New York State Residential Energy Code and the New York State Commercial Energy Code shall be known collectively as the "New York State Energy Code."

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3. 2010 ECCCNYS Section 101.1.1 (General).

In Section 101.1.1 of the 2010 ECCCNYS, the phrase "*Energy Conservation Construction Code of New York State*" shall be deemed to be amended to read as follows: "New York State Energy Code."

4. 2010 ECCCNYS Section 101.3.1 (currently entitled "ARRA").

Section 101.3.1 of the 2010 ECCCNYS shall be deemed to be retitled amended to read as follows:

> **101.3.1 Federal standards.** The New York State Residential Energy Code is intended to be a building energy code for residential buildings that meets or exceeds the 2009 edition of the *International Energy Conservation Code* (the "2009 IECC") or achieves equivalent or greater energy savings. The New York State Commercial Energy Code is intended to be a building energy code for commercial buildings that meets or exceeds ASHRAE 90.1-2010 or achieves equivalent or greater energy savings.

5. 2010 ECCCNYS Section 101.4.3 (Additions, alterations or renovations).

The first sentence in Section 101.4.3 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

> It is intended that the New York State Residential Energy Code shall apply to additions, alterations, and renovations of existing *residential buildings* in all cases where the 2009 IECC would apply, and that the New York State Commercial Energy Code shall apply to additions, alterations, and renovations of existing *commercial buildings* in all cases where ASHRAE 90.1-2010 would apply.

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6. 2010 ECCCNYS Section 101.4.6 (Statutory exemptions and limitations).

Section 101.4.6 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

> **Section 101.4.6 Statutory exemptions and limitations.** The applicability of the New York State Energy Code is subject to such statutory exemptions and limitations as may be set forth in Article 11 of the New York State Energy Law, as in effect at the time of adoption of rule incorporating the 2014 Supplement by reference into 19 NYCRR Part 1240.

7. **2010 ECCCNYS Section 101.4.6 (Statutory exemptions and limitations).**

The "Example" in section 101.4.6 of the 2010 ECCCNYS shall be deemed to be deleted and the following "Note" shall be deemed to be inserted in its place:

> **NOTE:** The 2010 ECCCNYS was first incorporated by reference in 19 NYCRR Part 1240 by rule adopted in September 2010. At that time, Energy Law section 11-103(b) provided that in the case of the renovation of an existing building, the New York State Energy Code would apply only if the renovation was a "substantial renovation" (i.e., only if more than fifty percent of any "building subsystem" was being replaced) and would apply only to that portion of the "building subsystem" which is being replaced. The "Example" in section 101.4.6 of the 2010 ECCCNYS reflects this old rule (the "50 percent rule"). However, 50 percent rule was eliminated by an amendment of Energy Law section 11-103(b) that became effective on January 1, 2011. Therefore, on and after January 1, 2011, the 50 percent rule no longer applies, and the applicability of the New York State Energy Code to renovations of existing buildings is no longer limited by the 50 percent rule.

8. 2010 ECCCNYS Section 101.5 (Compliance).

Section 101.5 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

> **101.5 Compliance.** *Residential buildings* shall comply with the applicable provisions of the New York State Residential Energy Code. *Commercial buildings* shall comply with the applicable requirements of the New York State Commercial Energy Code. Where a building includes both residential and commercial occupancies, each occupancy shall be separately considered, and residential occupancies shall comply with the applicable requirements of the New York State Residential Energy Code and commercial occupancies shall comply with the applicable requirements of the New York State Commercial Energy Code.

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9. 2010 ECCCNYS Section 101.5.1 (Compliance software).

Section 101.5.1 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

101.5.1 Compliance software.

101.5.1.1 Residential buildings. Compliance with the New York State Residential Energy Code can be demonstrated through the use of (i) computer software that is developed by the United States Department of Energy (such as REScheck, REM/Rate home energy rating or REM/Design Home energy analysis software) specifically for the New York State Residential Energy Code, or (ii) any other building energy modeling or home energy rating (HERS) software that shall have been expressly approved in writing by the New York Secretary of State as acceptable for demonstrating compliance with the New York State Residential Energy Code. Software programs used to show compliance with the New York State Residential Energy Code must indicate compliance with the New York State Residential Energy Code, and must reflect the actual requirements of the New York State Residential Energy Code. When using the software approach to show compliance with the New York State Residential Energy Code, the mandatory code provisions of the 2010 ECCCNYS must be complied with.

101.5.1.2 Commercial buildings. Compliance with the New York State Commercial Energy Code can be demonstrated through the use of (i) computer software that is developed by the United States Department of Energy (such as COMCheck) specifically for the New York State Commercial Energy Code (or specifically for ASHRAE 90.1-2010, as amended by Chapter 3 of the 2014 Supplement), or (ii) other software that shall have been expressly approved in writing by the New York Secretary of State as acceptable for demonstrating compliance with the New York State Commercial Energy Code (or for demonstrating compliance with ASHRAE 90.1-2010, as amended by Chapter 3 of the 2014 Supplement). Software programs used to show compliance with the New York State Commercial Energy Code must indicate compliance with the New York State Commercial Energy Code (or compliance with ASHRAE 90.1-2010, as amended by Chapter 3 of the 2014 Supplement), and must reflect the actual requirements of the New York State Commercial Energy Code (or the actual requirements of ASHRAE 90.1-2010, as amended by Chapter 3 of the 2014 Supplement). When using the software approach to show compliance with the New York State Commercial Energy Code, the mandatory code provisions in the "commercial provisions" of the 2012 IECC, as amended by Chapter 2 of the 2014 Supplement (or, if applicable, the mandatory provisions of ASHRAE 90.1-2010, as amended by Chapter 3 of the 2014 Supplement) must be complied with.

10. 2010 ECCCNYS Section 102.1.1 (Above code programs).

Section 102.1.1 of the 2010 ECCCNYS shall be deemed to be deleted.

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11. 2010 ECCCNYS Section 107.1 (General).

Section 107.1 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

107.1 General. The codes and standards referenced in Chapters 2, 3, and 4 of the 2010 ECCCNYS shall be those listed in Chapter 6 of the 2010 ECCCNYS, and such codes and standards shall be considered to be part of the requirements of the 2010 ECCCNYS (and, accordingly, to be part of the requirements of the New York State Residential Energy Code) to the prescribed extent of each such reference.

12. 2010 ECCCNYS Section 107.2 (Conflicting requirements).

Section 107.2 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

107.2 Conflicting requirements. Where the provisions of Chapters 2, 3, and 4 of the 2010 ECCCNYS and the referenced standards conflict, the provisions of Chapters 2, 3, and 4 of the 2010 ECCCNYS shall take precedence.

13. 2010 ECCCNYS Section 107.4 (Other laws and regulations).

Section 107.4 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

107.4 Other laws and regulations.

107.4.1 General. The New York State Residential Energy Code and the New York State Commercial Energy Code (as either or both may hereafter be further amended and/or supplemented from time to time by the provisions of Part 1240 of Title 19 of the New York Codes, Rules and Regulations) constitute the New York State Energy Conservation Construction Code (the "New York State Energy Code"), promulgated pursuant to Article 11 of the New York State Energy Law. The provisions of the New York State Energy Code shall not be deemed to nullify any federal, state or local law, ordinance, administrative code, rule or regulation relating to any matter as to which the New York State Energy Code does not provide.

107.4.2 Other agencies' regulations. Pursuant to Section 11-103(3) of the New York State Energy Law, any other code, rule or regulation heretofore promulgated or enacted by any state agency other than the State Fire Prevention and Building Code Council, incorporating specific energy conservation requirements applicable to the construction of any building, shall be superseded by the New York State Energy Code.

107.4.3 More stringent local energy codes. Pursuant to section 11-109 of the New York State Energy Law, and subject to the provisions and requirements of that section, any

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municipality has the power to promulgate a local energy conservation construction code that is more stringent than the New York State Energy Code.

14. 2010 ECCCNYS Chapter 1 references to "this code."

Each reference to "this code" made in any provision in Chapter 1 of the 2010 ECCCNYS (other than those provisions added, amended or deleted by paragraphs (1) to (13) in Chapter 1 of the 2014 Supplement) shall be deemed to be amended to be a reference to:

(1) the 2010 ECCCNYS (as amended by Chapter 1 of the 2014 Supplement),

(2) the New York State Residential Energy Code,

(3) the New York State Commercial Energy Code, and/or

(4) the New York State Energy Code,

as required to cause such provision and such reference properly to reflect the 2014 New York State Energy Code Amendment described in the "Introductory Statement" added to Chapter 1 of the 2010 ECCCNYS by paragraph (1) of Chapter 1 of the 2014 Supplement.

15. 2010 ECCCNYS Section 202 (Definitions).

The definitions of the terms "building," "commercial building," and "residential building" in section 202 of the 2010 ECCCNYS shall be deemed to be amended to read as follows:

> **BUILDING.** Any structure used or intended for supporting or sheltering any use or occupancy or for affording shelter to persons, animals or property, together with (A) any equipment, mechanical systems, service water heating systems, and electric power and lighting systems located in such structure, and (B) any mechanical systems, service water heating systems, and electric power and lighting systems located on the site where such structure is located and supporting such structure. The term "building" shall include, but shall not be limited to, factory manufactured homes (as defined in section 372(8) of the Executive Law) and mobile homes (as defined in section 372(13) of the Executive Law).

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COMMERCIAL BUILDING. The term "commercial building" shall include all buildings not included in the definition of "residential building."

RESIDENTIAL BUILDING. The term "residential building" includes:

(1) detached one-family dwellings having not more than three stories above grade plane;
(2) detached two-family dwellings having not more than three stories above grade plane;
(3) buildings that (i) consist of three or more attached townhouse units and (ii) have not more than three stories above grade plane;
(4) buildings that (i) are classified in accordance with Chapter 3 of the 2010 edition of the *Building Code of New York State* in Group R-2, R-3 or R-4 and (ii) have not more than three stories above grade plane;
(5) factory manufactured homes (as defined in section 372(8) of the Executive Law); and
(6) mobile homes (as defined in section 372(13) of the Executive Law).

For the purposes of this definition of the term "residential building," the term "townhouse unit" means a single-family dwelling unit constructed in a group of three or more attached units in which each unit (i) extends from the foundation to roof and (ii) has open space on at least two sides.

16. 2010 ECCCNYS Chapters 2, 3, 4, and 6 references to "this code."

Each reference to "this code" made in any provision in Chapter 2, 3, 4 or 6 of the 2010 ECCCNYS shall be deemed to be amended to be a reference to:

(1) the 2010 ECCCNYS (as amended by Chapter 1 of the 2014 Supplement),

(2) the New York State Residential Energy Code,

(3) the New York State Commercial Energy Code, and/or

(4) the New York State Energy Code,

as required to cause such provision and such reference properly to reflect the 2014 New York State Energy Code Amendment described in the "Introductory Statement" added to Chapter 1 of the 2010 ECCCNYS by paragraph (1) of Chapter 1 of the 2014 Supplement..

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CHAPTER 2

Amendments to the 2012 IECC

For the purposes of applying the 2012 IECC in this State, the 2012 IECC shall be deemed to be amended in the manner specified in this Chapter.

1. 2012 IECC Section C202 (General Definitions).

The definitions of the terms "above-grade wall," "building," "commercial building," "conditioned space," and "residential building" in section C202 in Chapter C2 of the 2012 IECC shall be deemed to be amended, and new definitions of the terms "2014 Supplement," "ASHRAE 90.1-2010," "air-impermeable insulation," "area weighed average," "building system," "registered design professional," "vapor retarder" and "vapor retarder class" shall be deemed to be added to section C202 in Chapter C2 of the 2012 IECC, said amended definitions and said new definitions to read as follows:

> **2014 SUPPLEMENT.** The publication entitled *2103 Supplement to the New York State Energy Conservation Construction Code* published by the New York State Department of State (publication date: June __, 2014).
>
> **ABOVE-GRADE WALL**. A wall more than 15 percent above grade and enclosing *conditioned space*. This includes between-floor spandrels, peripheral edges of floors, roof and basement knee walls, dormer walls, gable end walls, walls enclosing a mansard roof and skylight shafts.
>
> **AIR-IMPERMEABLE INSULATION.** An insulation having an air permeance equal to, or less than 0.02 L/s-m2 at 75 Pa pressure differential tested according to ASTM E 2178 or E 283.
>
> **AREA WEIGHTED AVERAGE.** A mathematical technique for combining different amounts of various components, based on proportional relevance, into a single number. Weighted averaging may be used where there is more than one *R*-value for floor, wall, or ceiling insulation, or more than one *U*-factor for fenestration in a building. As an example, the area weighted average for window fenestration *U*-factors equals (Area 1 x

U-factor 1) + (Area 2 x *U*-factor 2) + …/Total Area = maximum allowable fenestration *U*-factor.

ASHRAE 90.1-2010. The 2010 edition of the *Energy Standard for Buildings Except Low-rise Residential Buildings*, Standard Reference Number 90.1-2010, published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. (ASHRAE 90.1-2010 is published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., is jointly sponsored by the Illuminating Engineering Society of North America and the American National Standards Institute, and is also known as "ANSI/ASHRAE/IES 90.1-2010.")

BUILDING. Any structure used or intended for supporting or sheltering any use or occupancy or for affording shelter to persons, animals or property, together with (A) any equipment, mechanical systems, service water heating systems, and electric power and lighting systems located in such structure, and (B) any mechanical systems, service water heating systems, and electric power and lighting systems located on the site where such structure is located and supporting such structure. The term "building" shall include, but shall not be limited to, factory manufactured homes (as defined in section 372(8) of the Executive Law) and mobile homes (as defined in section 372(13) of the Executive Law).

BUILDING SYSTEM. The term "building system" means a combination of central or terminal equipment or components or controls, accessories, interconnecting means, and terminal devices by which energy is transformed so as to perform a specific function, such as heating, ventilation and air conditioning, service water heating or illumination.

COMMERCIAL BUILDING. The term "commercial building" includes all buildings that are not included in the definition of "residential buildings."

CONDITIONED SPACE. An area or room within a building which is within the thermal envelope of a building which is heated or cooled using fossil fuel or electricity as the energy source.

REGISTERED DESIGN PROFESSIONAL. An individual who is a licensed and registered architect (RA) in accordance with Article 147 of the New York State Education Law or a licensed and registered professional engineer (PE) in accordance with Article 145 of the New York State Education Law.

RESIDENTIAL BUILDING. The term "residential building" includes:

(1) detached one-family dwellings having not more than three stories above grade plane;

(2) detached two-family dwellings having not more than three stories above grade plane;

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(3) buildings that (i) consist of three or more attached townhouse units and (ii) have not more than three stories above grade plane;

(4) buildings that (i) are classified in accordance with Chapter 3 of the 2010 edition of the *Building Code of New York State* in Group R-2, R-3 or R-4 and (ii) have not more than three stories above grade plane;

(5) factory manufactured homes (as defined in section 372(8) of the Executive Law); and

(6) mobile homes (as defined in section 372(13) of the Executive Law).

For the purposes of this definition of the term "residential building," the term "townhouse unit" means a single-family dwelling unit constructed in a group of three or more attached units in which each unit (i) extends from the foundation to roof and (ii) has open space on at least two sides.

VAPOR RETARDER. A vapor-resistant material, membrane or covering such as foil, plastic sheeting or insulation facing. Vapor retarders limit the amount of moisture vapor that passes through a material or wall assembly.

VAPOR RETARDER CLASS. A vapor retarder shall be classified in accordance with its permeance rating measured in "perm" (1 perm = 5.7×10^{-11} kg/Pa · s · m^2) when tested in accordance with the dessicant method using Procedure A of ASTM E 96-00, as follows:

Class I vapor retarder: a vapor retarder having a permeance rating of 0.1 perm or less.

Class II vapor retarder: a vapor retarder having a permeance rating that is more than 0.1 perm and less than or equal to 1.0 perm.

Class III vapor retarder: a vapor barrier having a permeance rating that is more than 1.0 perm and less than or equal to 10.0 perm.

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2. 2012 IECC Section C401.2 (Application).

Section C401.2 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows:

C401.2 Application. **Commercial** buildings shall comply with one of the following:

1. The requirements of *ASHRAE 90.1-2010*, as amended by Chapter 3 of the *2014 Supplement*; or

2. Prescriptive. (i) The requirements of Sections C402, C403, C404 and C405 and (ii) the requirements of Section C406.2, Section C406.3 or Section C406.4; or

3. Performance. The requirements of Sections C407, C402.4, C403.2, C404, C405.2, C405.3, C405.4, C405.6, and C405.7. The building energy cost shall be equal to or less than 85 percent of the standard reference design building.

3. 2012 IECC Section C401.2.1 (Application to existing buildings).

Section C401.2.1 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows**:**

C401.2.1 Application to existing buildings. Additions, alterations and repairs to existing buildings shall comply with one of the following:

1. The requirements of Sections C402, C403, C404, and C405; or

2. The requirements of Section C407;[1] or

3. The requirements of *ASHRAE 90.1-2010*, as amended by Chapter 3 of the *2014 Supplement*.

[1] In a building rehabilitation project, the building parameters for the proposed design and standard referenced design are allowed to vary. Parameters relating to unmodified existing conditions, or to any future building components shall be identical for both the proposed design and Standard referenced design, reflecting actual building conditions.

4. 2012 IECC Section 402.1.1 (Insulation and fenestration criteria).

The reference in Section 402.1.1 in Chapter C4 of the 2012 IECC to "ANSI/ASHRAE/IESNA 90.1" shall be deemed to be a reference to *ASHRAE 90.1-2010*, as amended by Chapter 3 of the *2014 Supplement*.

5. 2012 IECC Table C402.1.2 (Opaque Thermal Envelop Assembly Requirements).

The references in footnote "a" of Table 402.1.2 in Chapter C4 of the 2012 IECC to "ANSI/ASHRAE/IESNA 90.1 Appendix A" shall be deemed to be references to Appendix A in *ASHRAE 90.1-2010*.

6. 2012 IECC Table C402.2 (Opaque Thermal Envelop Requirements).

The reference in footnote "a" of Table 402.2 in Chapter C4 of the 2012 IECC to "ANSI/ASHRAE/IESNA Appendix A" shall be deemed to be a reference to Appendix A in *ASHRAE 90.1-2010*.

7. 2012 IECC Section C402.2.1 (Roof assembly).

Section C402.2.1 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows**:**

> **C402.2.1 Roof assembly**. The minimum thermal resistance *R*-value of the insulating material installed either between the roof framing or continuously on the roof assembly shall be as specified in Table C402.2, based on construction materials used in the roof assembly. Skylight curbs shall be insulated to the *R*-value of roofs with insulation entirely above deck or R-5, whichever is less.
>
> **Exceptions:**

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1. Continuously insulated roof assemblies where the thickness of insulation varies 1 inch (25 mm) or less and where the area-weighted *U*-factor is equivalent to the same assembly with the *R*-value specified in Table C402.2.

2. Unit skylight curbs included as a component of an NFRC 100 rated assembly shall not be required to be insulated.

Insulation installed on a suspended ceiling with removable ceiling tiles shall not be considered part of the minimum thermal resistance of the roof insulation.

8. 2012 IECC Section C402.2.9 (Fireplaces).

Section C402.2 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of a new section C402.2.9, to read as follows:

C402.2.9 Fireplaces. Tight-fitting noncombustible fireplace doors to control infiltration losses shall be installed on fireplace openings as provided herein:

1 Masonry fireplaces or fireplace units designed to allow an open burn.

2. Decorative appliances (ANSI Standard Z21.60 gas-log style unit) installed in vented solid fuel fireplaces.

3. Vented decorative gas fireplace appliances (ANSI Standard Z21.50 unit).

Fireplaces shall be provided with a source of combustion air as required by the fireplace construction provisions of the 2010 *Building Code of New York State*, the 2010 *Residential Code of New York State* or the *New York City Building Code*, as applicable.

9. 2012 IECC Section C402.4.5 (Air intakes, exhaust openings, stairways and shafts).

Section C402.4.5 in Chapter C4 of the IECC shall be deemed to be amended to read as follows

C402.4.5 Air intakes, exhaust openings, stairways and shafts. Stairway enclosures and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the *building envelope* shall be provided with dampers in accordance with Section C403.2.4.4.

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10. 2012 IECC Section C402.4.5.1 (Stairway and Vent Shafts) and Section C402.4.5.2 (Outdoor Air intakes and exhausts).

Sections C402.4.5.1 and C402.4.5.2 in Chapter C4 of the 2012 IECC shall be deemed to be deleted. (**NOTE**: A retitled and revised version of Section C402.4.5.1 has been added as new Section 403.2.4.4.1 and a revised version of Section C402.4.5.2 has been added as new Section C403.2.4.4.2. See paragraph 17 at pp. 29 - 30 below.)

11. 2012 IECC Section C402.4.7 (Vestibules).

Section C402.4.7 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows:

> **C402.4.7 Vestibules**. All building entrances shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time.
>
> **Exceptions:**
>
> 1. Doors not intended to be used by the public, such as doors to mechanical or electrical equipment rooms, or intended solely for employee use.
> 2. Doors opening directly from a *sleeping unit* or dwelling unit.
> 3. Doors that open directly from a space less than 3,000 square feet (298 square meters) in area.
> 4. Revolving doors (provided, however, that the installation of one or more revolving doors in the building entrance shall not eliminate the requirement that a vestibule be provided on any doors adjacent to revolving doors).
> 5. Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.

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12. 2012 IECC Section C402.4.9 (Vapor retarders [Mandatory]), Section C402.4.9.1 (Class III vapor retarders), Table C402.4.9.1 (Class III Vapor retarders), Section C402.4.9.2 (Material vapor retarder class), Section C402.4.9.3 (Minimum clear air spaces and vented openings), and Section C402.4.9.4 (Other buildings).

Section C402.4 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of a new section C402.4.9, a new section C402.4.9.1, a new Table C402.4.9.1, a new section C402.4.9.2, a new section C402.4.9.3, and a new section C402.4.9.4, to read as follows:

C402.4.9 Vapor retarders (Mandatory). Except as otherwise provided in Section C402.4.9.1, Class I or II vapor retarders are required on the interior side of walls in climate zones 5 and 6 for all framed walls, floors and ceilings where the framed cavity is not ventilated to allow moisture to escape.

Exceptions:

1. *Basement walls*.

2. Below grade portion of any wall.

3. Construction where moisture or its freezing will not damage the materials.

C402.4.9.1 Class III vapor retarders. When a vapor retarder is required by Section C402.4.9, a Class III vapor retarder may be provided in lieu of a Class I or II vapor retarder for framed walls, floors, and ceilings made of the materials indicated in Table C402.4.9.1.

Exception: Nothing is this section C402.4.9.1 on in Table C402.4.9.1 shall be construed as permitting a Class III vapor retarder in any situation where a Class I or Class II vapor retarder is required by the 2010 *Building Code of New York State*, the 2010 *Residential Code of New York State* or the *Building Code of New York City*, as applicable.

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TABLE C402.4.9.1
CLASS III VAPOR RETARDERS

CLIMATE ZONE	CLASS III VAPOR RETARDERS PERMITTED FOR
5	Vented cladding over OSB
	Vented cladding over Plywood
	Vented cladding over Fiberboard
	Vented cladding over Gypsum
	Insulated sheathing with R-value >= 5 over 2x4 wall
	Insulated sheathing with R-value >= 7.5 over 2x6 wall
6	Vented cladding over Fiberboard
	Vented cladding over Gypsum Insulated sheathing with R-value >= 7.5 over 2x4 wall
	Insulated sheathing with R-value >= 11.25 over 2x6 wall

C402.4.9.2 Material vapor retarder class. A vapor retarder shall be classified in accordance with its permeance rating measured in "perm" (1 perm = 5.7×10^{-11} kg/Pa · s · m^2) when tested in accordance with the dessicant method using Procedure A of ASTM E 96, as follows:

Class I vapor retarder: a vapor retarder having a permeance rating of 0.1 perm or less.

Class II vapor retarder: a vapor retarder having a permeance rating that is more than 0.1 perm and less than or equal to 1.0 perm.

Class III vapor retarder: a vapor barrier having a permeance rating that is more than 1.0 perm and less than or equal to 10.0 perm.

The vapor retarder class shall be based on the testing of the vapor retarder or an assembly that includes the vapor retarder, such testing to be performed and certified by the manufacturer of the vapor retarder or by an approved independent testing organization. However, in the absence of certified test results indicating that a different class is appropriate, the following materials shall be deemed to be in the class specified:

Class I: Sheet polyethylene, non-perforated aluminum foil

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Class II: Kraft faced fiberglass batts

Class III: Latex or enamel paint

C402.4.9.3 Minimum clear air spaces and vented openings. For the purposes of this section vented shall include the following minimum clear air spaces. Other openings with the equivalent vent area shall be permitted.

1. Vinyl lap or horizontal aluminum siding applied over a weather resistive barrier installed per chapter 14 of the Building Code of New York State.

2. Brick veneer separated from the sheathing as required by Chapter 14 of the Building Code of New York State.

3. Other approved vented claddings.

C402.4.9.4 Other buildings. Where the roof assembly could be subject to damage from moisture and the proposed use will create elevated moisture levels within a building or space, such as swimming pools, gymnasiums, cooking areas and processing plants, the design professional shall be responsible for determining the application of a vapor retarder to protect the roof structure. This determination should be based on the climate zone and the projected interior humidity level in the building space below.

13. 2012 IECC Section C403.2.6 (Energy recovery ventilation systems) and C403.2.10 (Air system design and control).

In Chapter C4 of the 2012 IECC, Section C403.2.6 **(**Energy recovery ventilation systems) and Section C403.2.10 (Air system design and control) are included in the "mandatory provisions" applicable to all mechanical systems. For the purposes of applying the 2012 IECC in New York State, it is intended that the provisions of Sections C403.2.6 and C403.2.10 shall not be included in the "mandatory provisions" applicable to all mechanical systems, but shall be included in the "prescriptive" provisions set applicable <u>to both simple and</u> complex HVAC systems and equipment. In furtherance of this intent, Sections C403.1, C403.2, 403.3, and C403.4 in Chapter C4 of the 2012 IECC shall be deemed to be amended as follows:

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(A) 2012 IECC Section C403.1. Section C403.1 of the 2012 IECC shall be deemed to be amended to read as follows:

> **C403.1 General.** Mechanical systems and equipment serving the building heating, cooling or ventilating needs shall comply with Sections C403.2.1, C403.2.2, C403.2.3, C403.2.4, C403.2.5, C403.2.7, C403.8, C403.2.9, and C403.2.11 (referred to as the mandatory provisions) and either:
>
> 1. Section C403.3 (Simple systems); or
>
> 2. Section C403.4 (Complex systems).

(B) 2012 IECC Section C403.2. Section C403.2 of the 2012 IECC shall be deemed to be amended to read as follows:

> **C403.2 Provisions applicable to all mechanical systems (Mandatory).** Mechanical systems and equipment serving the building heating, cooling or ventilating needs shall comply with Sections C403.2.1, C403.2.2, C403.2.3, C403.2.4, C403.2.5, C403.2.7, C403.8, C403.2.9, and C403.2.11.

(C) <u>2012 IECC Section C403.3 Simple HVAC systems and equipment (Prescriptive).</u> <u>Section C403.3 of the 2012 IECC shall be deemed to be amended by the addition of new sections C403.3.5 and C403.3.6, to read as follows:</u>

> **<u>C403.3.5 Energy recovery ventilation systems.</u>** <u>The provisions of Section C403.2.6 shall apply to simple HVAC systems and equipment.</u>
>
> **<u>C403.3.6 Air system design and control</u>**. <u>The provisions of Section C403.2.10 shall apply to simple HVAC systems and equipment.</u>

(D) 2012 IECC Section <u>C403.4 Complex HVAC systems and equipment</u> **<u>(Prescriptive).</u>** Section C403.4 of the 2012 IECC shall be deemed to be amended by the addition of ~~a~~ new sections C403.4.8 and C403.4.9, to read as follows:

> **C403.4.8 Energy recovery ventilation systems.** The provisions of Section C403.2.6 shall apply to complex HVAC systems and equipment.

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C403.4.9 Air system design and control. The provisions of Section C403.2.10 shall apply to complex HVAC systems and equipment.

14. 2012 IECC Section C403.2.3.1 (Water-cooled centrifugal chilling packages).

Section C403.2.3.1 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows:

C403.2.3.1 Water-cooled centrifugal chilling packages. Equipment not designed for operation at AHRI Standard 550/590 test conditions of 44°F (7°C) leaving chilled-water temperature and 85°F (29°C) entering condenser water temperature with 3 gpm/ton (0.054 I/s • kW) condenser water flow shall have maximum full-load kW/ton and *NPLV* ratings adjusted using the equations specified in Section 6.4.4.2.1 of ASHRAE 90.1-2010.

15. 2012 IECC Section C403.2.4.3.3 (currently entitled "Automatic start capabilities").

Section C403.2.4.3.3 in Chapter C4 of the 2012 IECC shall be deemed to be retitled and amended to read as follows:

C403.2.4.3.3 Optimum Start Controls. Individual heating and cooling air distribution systems with a total design supply air capacity exceeding 10,000 cfm, served by one or more supply fans, shall have optimum start controls. The control algorithm shall, as a minimum, be a function of the difference between space temperature and occupied setpoint and the amount of time prior to scheduled occupancy.

16. 2012 IECC Section C403.2.4.4 (currently entitled "Shutoff Damper Controls").

Section C403.2.4.4 in Chapter C4 of the IECC shall be deemed to be retitled and amended to read as follows:

C403.2.4.4 Shutoff dampers. Stairway and shaft vent dampers shall meet the requirements of Section C403.2.4.4.1. Outdoor air supply intakes and exhausts meet the requirements of Section C403.2.4.4.2.

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17. 2012 IECC Section C403.2.4.4.1 (Stairway and shaft vent dampers), Section C403.2.4.4.2 (Outdoor air intakes and exhausts)

Section C403.2.4.4 in Chapter C4 of the IECC, as retitled and amended by paragraph 16 at page 30 above, shall be deemed to be amended by the addition of a new section C403.2.4.4.1, a new section C403.2.4.4.2, to read as follows:

C403.2.4.4.1 Stairway and shaft vent dampers. Stairway and shaft vents shall be provided with Class I motorized dampers with a maximum leakage rate of 4 cfm/ft^2 (20.3 L/s · m^2) at 1.0 inch water gauge (w.g.) (249 Pa) when tested in accordance with AMCA 500D. Stairway and shaft vent dampers shall be installed with controls so that they are capable of automatically opening upon:

1. The activation of any fire alarm initiating device of the building's fire alarm system; or

2. The interruption of power to the damper.

C403.2.4.4.2 Outdoor air intakes and exhausts. *Outdoor air* supply and exhaust openings in the *building-envelope*, ducts, or equipment shall be provided with Class 1 motorized dampers with a maximum leakage rate of 4 cfm/ft^2 (20.3 L/s · m^2) at 1.0 inch water gauge (w.g.) (249 Pa) when tested in accordance with AMCA 500D. Outdoor air supply and exhaust motorized dampers shall be configured to close automatically when the systems or spaces served are not in use.

Exceptions:

1. Gravity (nonmotorized) dampers having a maximum leakage rate of 20 cfm/ft^2 (101.6 L/s · m^2) at 1.0 inch water gauge (w.g.) (249 Pa) when tested in accordance with AMCA 500D are permitted to be used as follows:

   1.1. In buildings less than three stories in height above grade for exhaust and relief dampers.

   1.2. Where the design *outdoor air* intake or exhaust capacity does not exceed 300 cfm (141 L/s).

   Gravity (nonmotorized) dampers for ventilation air intakes shall be protected from direct exposure to wind.

2. Gravity (nonmotorized) dampers smaller than 24 inches (610 mm) in either dimension shall be permitted to have a leakage of 40 cfm/ft^2 (203.2 L/s · m^2) at

1.0 inch water gauge (w.g.) (249 Pa) when tested in accordance with AMCA 500D.

3. Dampers are not required for:

3.1. Ventilation or exhaust systems serving unconditioned spaces.

3.2. Exhaust systems serving Type 1 kitchen exhaust hoods.

18. 2012 IECC Section C403.2.6 (Energy recovery ventilation systems)

Section C403.2.6 in Chapter 4 of the 2012 IECC shall be deemed to be amended by the addition of a Note to read as follows:

NOTE: This Section C403.2.6 shall not be included in the "mandatory provisions" applicable to all mechanical systems, but shall be included in the "prescriptive" provisions set applicable to simple and complex HVAC systems and equipment.

19. 2012 IECC Section C403.2.8 (Piping insulation).

Exception "2" in Section C403.2.8 of the 2012 IECC shall be deemed to be amended to read as follows:

2. Factory-installed piping within room fan-coils and unit ventilators tested and rated according to AHRI 440 (except that the sampling and variation provisions of Section 6.5 shall not apply) and AHRI 840, respectively.

20. 2012 IECC Section C403.2.10 (Air system design and control)

Section C403.2.10 in Chapter 4 of the 2012 IECC shall be deemed to be amended by the addition of a Note to read as follows:

NOTE: This Section C403.2.10 shall not be included in the "mandatory provisions" applicable to all mechanical systems, but shall be included in the "prescriptive" provisions set applicable to simple and complex HVAC systems and equipment.

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21. 2012 IECC Section C403.3.1 (Economizers), Table C403.3.1(1), Table C403.3.1(2), and new Table C403.3.3.1.

Section C403.3.1 in Chapter C4 of the 2012 IECC shall be deemed to be amended, Tables C403.3.1(1) and C403.3.1(2) in Chapter C4 of the 2012 IECC shall be deemed to be deleted, and a new Table C403.3.1 shall be deemed to be added to Section C403.3.1 in Chapter C4 of the 2012 IECC, the amended version of Section C403.3.1 and new Table C403.3.1 to read as follows:

C403.3.1 Economizers. Each cooling system that has a fan shall include an air economizer meeting the requirements of Sections C403.3.1.1 through C403.3.1.1.4.

Exception: Economizers are not required for the systems listed below.

1. Individual fan-cooling units with a supply capacity less than 54,000 Btu/h for comfort cooling applications.

2. Individual fan-cooling units with a supply capacity less than 135,000 Btu/h for computer room applications in Climate Zones 5A and 6A.

3. Individual fan-cooling units, without regard to supply capacity, for computer room applications in Climate Zone 4A.

4. In Group I-2 occupancies, hospitals, Group B occupancies, and ambulatory care facilities, where more than 75 percent of the air designed to be supplied by the system is to spaces that are required to be humidified above a 35°F (1.7°C) dew-point temperature to comply with applicable codes or accreditation standards. In other occupancies, where more than 25 percent of the air designed to be supplied by the system is to spaces that are designed to be humidified above a 35°F (1.7°C) dew-point temperature to satisfy process needs.

5. Systems that serve *residential* spaces where the total building residential cooling capacity is less than 270,000 Btu/h.

6. Systems expected to operate less than 20 hours per week.

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7. Where the use of *outdoor air* for cooling will affect supermarket open refrigerated casework systems.

8. Where the cooling *efficiency* meets or exceeds the *efficiency* requirements in Table C403.3.1.

9. Systems that include a condenser heat recovery system that is designed to utilize 60 percent of the peak heat rejection load at design conditions and there is a documented need for that rejected heat for either service hot water or space heating during peak heat rejection design conditions.

10. Systems that serve spaces estimated as having a sensible cooling load at design conditions, excluding transmission and infiltration loads, of less than or equal to transmission and infiltration losses at an outdoor temperature of 60 ° F.

TABLE 403.3.1
EQUIPMENT EFFICIENCY PERFORMANCE EXCEPTION FOR ECONOMIZERS

CLIMATE ZONE	COOLING EQUIPMENT EFFICIENCY IMPROVEMENT (%)[a]
4A	42
5A	49
6A	56

a. A system qualifies for Exception 8 to the requirements of Section C403.3.1 if:

(1) the energy efficiency of the HVAC unit is rated with a “part load” metric (such as IPLV, IEER or SEER); Tables C403.2.3 (1) though C403.2. (8) specify a required minimum cooling efficiency for such HVAC unit using the same “part load” metric; and the rated efficiency of the HVAC unit exceeds the required minimum efficiency (expressed in the same “part load” metric) by at least the percentage shown in this Table; or

(2) the energy efficiency of the HVAC unit is not rated with any “part load” metric but is rated with a “full load” metric (such as EER or COP); Tables C403.2.3 (1) though C403.2.~~1~~(8) specify a required minimum cooling efficiency for such HVAC unit using the same “full load” metric; and the rated efficiency of the HVAC unit exceeds the required minimum efficiency (expressed in the same “full load” metric) by at least the percentage shown in this Table.

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22. 2012 IECC Section C403.3.1.1.5 Dampers.

Section C403.3.1.1 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of a new Section C403.3.1.1.5 to read as follows:

> **C403.3.1.1.5 Dampers.** Exhaust/relief and *outdoor air* dampers shall meet the requirements of Section C403.2.4.4.2

23. 2012 IECC Section C403.3.3 (Fan Airflow Control).

Section C403.3 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of a new Section C403.3.3 to read as follows:

> **C403.3.3 Fan airflow control.** All air-conditioning equipment and air-handling units with direct expansion cooling and a cooling capacity of at least 110,000 Btu/h that serve single zones shall have their supply fans controlled by multi-speed motors or variable-speed drives. The supply fan controls shall be configured to reduce the airflow to no more than the larger of the following at cooling demands no larger than 50% of the cooling capacity:
>
> 1. Two-thirds of the full fan speed, or
>
> 2. The volume of outdoor air required to meet the ventilation requirements of the 2010 *Mechanical Code of New York State* (or, in New York City, the corresponding portion of the Building Code of New York City).

24. 2012 IECC Section C403.3.4 (Control of HVAC in Group R-1 Sleeping Rooms).

Section C403.3 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of a new Section C403.3.4 to read as follows:

> **C403.3.4 Control of HVAC in Group R-1 sleeping rooms.** In Group R-1 occupancies, each sleeping room shall be provided with a dedicated system to control automatically the heating, ventilating, and air-conditioning (HVAC) systems to control the energy consumption during unoccupied periods. The controls shall be designed to (change) raise cooling and lower heating temperature set points by at least 4°F (2.22°C) during periods when the sleeping room is unoccupied.
>
> > **Exception**: Automatic controls are not required in Group R-1 occupancies with fewer than 20 sleeping rooms.

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25. 2012 IECC Section C403.4.1 (Economizers).

Section C403.4.1 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows:

> **403.4.1 Economizers**. Each cooling system that has a fan shall include either an air economizer meeting the requirements of Sections C403.3.1.1 through C403.3.1.1.4 or a water economizer meeting the requirements of Sections C403.4.1.1 through C403.4.1.4.

26. 2012 IECC Section C403.4.2 (currently entitled "Variable air volume (VAV) fan control").

Section C403.4.2 in Chapter C4 of the 2012 IECC shall be deemed to be retitled and amended to read as follows:

> **C403.4.2 Fan Airflow Control.** HVAC systems with fans shall meet the requirements of C403.3.3 or C403.4.2.1.
>
> > **C403.4.2.1 Variable air volume (VAV) fan control.** Individual VAV fans with motors of 5 horsepower (3.7 kW) or greater shall be:
> >
> > 1. Driven by a mechanical or electrical variable speed drive;
> > 2. Driven by a vane-axial fan with variable-pitch blades; or
> > 3. The fan shall have controls or devices that will result in fan motor demand of no more than 30 percent of their design wattage at 50 percent of design airflow when static pressure set point equals one-third of the total design static pressure, based on manufacturer's certified fan data.

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27. 2012 IECC Section C403.4.5 (Requirements for complex mechanical systems serving multiple zones).

Section C403.4.5 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of new subparagraphs 4 and 5. Said new subparagraphs 4 and 5 shall be deemed to be added immediately after existing subparagraph 3 and immediately before the "Exception," and shall read as follows:

4. Any higher rate that can be demonstrated to reduce overall system annual energy use by offsetting reheat/recool energy losses through a reduction in *outdoor air* intake for the system, as *approved* by the *code official*.

5. The air flow rate required to comply with applicable codes or accreditation standards, such as pressure relationships or minimum air change rates.

28. 2012 IECC Section C403.4.5 (Requirements for complex mechanical systems serving multiple zones): Exception

The "Exception" in Section C403.4.5 in Chapter C4 of the 2012 IECC currently includes 6 numbered subparagraphs. Existing subparagraph 1 of the "Exception" shall be deemed to be deleted, and existing subparagraphs 2, 3, 4, 5, and 6 shall be deemed to be renumbered as subparagraphs 1, 2, 3, 4, and 5, respectively.

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29. 2012 IECC Section C403.4.5.5 (Multiple-zone VAV system ventilation optimization control).

Section C403.4.5 in Chapter C4 of the 2012 IECC shall be deemed to be amended by the addition of a new Section C403.4.5.5 to read as follows:

> **C403.4.5.5 Multiple-zone VAV system ventilation optimization control.** Multiple-zone VAV systems with DDC of individual zone boxes reporting to a central control panel shall have automatic controls configured to reduce outdoor air intake flow below design rates in response to changes in *system ventilation efficiency* (E_v) as defined by the 2010 *Mechanical Code of New York State*.
>
> **Exceptions:**
> 1. VAV systems with zonal transfer fans that recirculate air from other zones without directly mixing it with outdoor air, dual-duct dual-fan VAV systems, and VAV systems with fan-powered terminal units.
>
> 2. Systems having exhaust air energy recovery complying with Section C403.2.6.
>
> 3. Systems where total design exhaust airflow is more than 70% of total design outdoor air intake flow requirements.

30. 2012 IECC Section C405.2.4 (Exterior lighting controls).

Section C405.2.4 in Chapter C4 of the 2012 IECC shall be deemed to be amended to read as follows:

> **C405.2.4 Exterior lighting controls.** All exterior lighting shall be provided with a control that automatically turns off the lighting when daylight is available. Where lighting the building façade or landscape, the lighting shall also be provided with controls that automatically shut off the lighting from 12 midnight or within one hour of the end of business operations, whichever is later until 6 a.m. or business opening whichever is earlier. Exterior lighting other than building façade or landscape lighting shall be provided with controls configured to automatically reduce the connected lighting power by at least 30 percent from 12 midnight or within one hour of the end of business operations, whichever is later until 6 a.m. or business opening whichever is earlier or during any period when no activity has been detected for a time of no longer than 15 minutes. All controls that operate as a function of time shall be capable of retaining programming and the time setting during a loss of power of at least 10 hours.
>
> **Exceptions:**

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1. Emergency lighting that is intended to be automatically off during building operation.
2. Lighting specifically required to satisfy health and life safety requirements.
3. Decorative gas lighting systems.
4. Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation.

31. 2012 IECC Table C406.2(4) (Warm Air Furnaces and Combination Warm Air Furnaces / Air-Conditioning Units, Warn Air Duct Furnaces and Unit Heaters, Efficiency Requirements).

The last row in Table 406.2(4) in Chapter C4 of the 2012 IECC (covering "Warm air unit heaters, oil fired") shall be deemed to be amended to read as follows:

EQUIPMENT TYPE	SIZE CATEGORY (INPUT)	SUBCATEGORY OR RATING CONDITION	MINIMUM EFFICIENCY	TEST PROCEDURE
Warm air unit heaters, oil fired	All capacities	Maximum capacity	85% E_c	UL 731

32. 2012 IECC Table C406.2(5) (Boiler, Efficiency Requirements).

The portion of Table 406.2(5) in Chapter C4 of the 2012 IECC covering "hot water" equipment shall be deemed to be amended to read as follows:

EQUIPMENT TYPE	FUEL	SIZE CATEGORY	TEST PROCEEDURE	MINIMUM EFFICIENCY
Hot water	Gas	< 300,000 Btu/h	DOE 10 CFR Part 430	92% AFUE
Hot water	Gas	≥ 300,000 Btu/h and < 2.5 m Btu/h	DOE 10 CFR Part 431	92% E_t
Hot water	Gas	≥ 2.5 m Btu/h	DOE 10 CFR Part 431	92% E_c
Hot water	Oil	< 300,000 Btu/h	DOE 10 CFR Part 430	85% AFUE
Hot water	Oil	≥ 300,000 Btu/h and < 2.5 m Btu/h	DOE 10 CFR Part 431	85% E_t
Hot water	Oil	≥ 2.5 m Btu/h	DOE 10 CFR Part 431	85% E_c

33. 2012 IECC Chapter C5 (Referenced Standards).

(A) The entry for "90.1-2010" under the "ASHRAE" portion of Chapter C5 of the 2012 IECC shall be deemed to be amended as follows:

Standard reference number	Title	Referenced in 2012 IECC section numbers
* ASHRAE 90.1-2010	Energy Standard for Buildings Except Low-rise Residential Buildings (ASHRAE 90.1-2010) NOTE: ASHRAE 90.1-2010 is published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., is jointly sponsored by the Illuminating Engineering Society of North America and the American National Standards Institute, and is also known as "ANSI/ASHRAE/IES 90.1-2010."	C401.2, as amended by paragraph 2 in Chapter 2 of the *2014 Supplement* C401.2.1, as amended by paragraph 3 in Chapter 2 of the *2014 Supplement* C402.1.1, as amended by paragraph 4 in Chapter 2 of the *2014 Supplement* Table C402.1.2, as amended by paragraph 5 in Chapter 2 of the *2014 Supplement* Table C402.2, as amended by paragraph 6 in Chapter 2 of the *2014 Supplement*

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

(B) The "AHRI" portion of Chapter C5 of the 2012 IECC shall be deemed to be amended by the addition of a new entry for "AHRI 840-98" to read as follows:

Standard reference number	Title	Referenced in 2012 IECC section number(s)
* AHRI 840-98	Unit Ventilators	C403.2.8, as amended by paragraph 18 in Chapter 2 of the *2014 Supplement*

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

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(C) The "ASTM" portion of Chapter C5 of the 2012 IECC shall be deemed to be amended by the addition of a new entry for "ASTM E 96-00" to read as follows:

Standard reference number	Title	Referenced in 2012 IECC section number(s)
* ASTM E96-00	Standard Test Methods for Water Vapor Transmission of Materials (Vapor Retarder)	C202 (definition of "Vapor Retarder Class"), as amended by paragraph 1 in Chapter 2 of the *2014 Supplement*

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

(D) The entry for "10 CFR, Part 430, Subpart B, Appendix N - 1998" under the "DOE" portion of Chapter C5 of the 2012 IECC shall be deemed to be amended as follows:

Standard reference number	Title	Referenced in 2012 IECC section numbers
* Appendix N to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations - 2009	Uniform Test Method for Measuring the Energy Consumption of Furnaces and Boilers	C202 (definition of "Furnace Electricity Ratio")

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

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(E) The "IESNA" portion of Chapter C5 of the 2012 IECC shall be deemed to be amended to read as follows:

IESNA Illuminating Engineering Society of North America
120 Wall Street, 17th Floor
New York, NY 10005-4001

Standard reference number	Title	Referenced in 2012 IECC section numbers
* ASHRAE 90.1-2010	Energy Standard for Buildings Except Low-rise Residential Buildings (ASHRAE 90.1-2010) NOTE: ASHRAE 90.1-2010 is published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., is jointly sponsored by the Illuminating Engineering Society of North America and the American National Standards Institute, and is also known as "ANSI/ASHRAE/IES 90.1-2010."	C401.2, as amended by paragraph 2 in Chapter 2 of the *2014 Supplement* C401.2.1, as amended by paragraph 3 in Chapter 2 of the *2014 Supplement* C402.1.1, as amended by paragraph 4 in Chapter 2 of the *2014 Supplement* Table C402.1.2, as amended by paragraph 5 in Chapter 2 of the *2014 Supplement* Table C402.2, as amended by paragraph 6 in Chapter 2 of the *2014 Supplement*

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

34. 2012 IECC: References to "this code."

Each reference in Chapter C2, C3, C4 or C5 in the "commercial provisions" of the 2012 IECC to "this code" shall be deemed to be a reference to the 2012 IECC, as amended by Chapter 2 of the *2014 Supplement*.

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35. 2012 IECC: References to *I-Codes*.

References to the *International Building Code.* Each reference in the 2012 IECC to the *International Building Code* shall be deemed to be a reference to the 2010 *Building Code of New York State* (or, in New York City, to the corresponding portion of the New York City Building Code). Each reference in the 2012 IECC to a specific section, table or other provision in the *International Building Code* shall be deemed to be a reference to the corresponding section, table or provision in the 2010 *Building Code of New York State* (or, in New York City, to the corresponding section, table or provision in the New York City Building Code).

References to the *International Fire Code.* Each reference in the 2012 IECC to the *International Fire Code* shall be deemed to be a reference to the 2010 *Fire Code of New York State* (or, in New York City, to the corresponding portion of the New York City Building Code). Each reference in the 2012 IECC to a specific section, table or other provision in the *International Fire Code* shall be deemed to be a reference to the corresponding section, table or provision in the 2010 *Fire Code of New York State* (or, in New York City, to the corresponding section, table or provision in the New York City Building Code).

References to the *International Fuel Gas Code.* Each reference in the 2012 IECC to the *International Fuel Gas Code* shall be deemed to be a reference to the 2010 *Fuel Gas Code of New York State* (or, in New York City, to the corresponding portion of the New York City Building Code). Each reference in the 2012 IECC to a specific section, table or other provision in the *International Fuel Gas Code* shall be deemed to be a reference to the corresponding section, table or provision in the 2010 *Fuel Gas Code of New York State* (or, in New York City, to the corresponding section, table or provision in the New York City Building Code).

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References to the *International Mechanical Code.* Each reference in the 2012 IECC to the *International Mechanical Code* shall be deemed to be a reference to the 2010 *Mechanical Code of New York State* (or, in New York City, to the corresponding portion of the New York City Building Code). Each reference in the 2012 IECC to a specific section, table or other provision in the *International Mechanical Code* shall be deemed to be a reference to the corresponding section, table or provision in the 2010 *Mechanical Code of New York State* (or, in New York City, to the corresponding section, table or provision in the New York City Building Code).

References to the *International Plumbing Code.* Each reference in the 2012 IECC to the *International Plumbing Code* shall be deemed to be a reference to the 2010 *Plumbing Code of New York State* (or, in New York City, to the corresponding portion of the New York City Building Code). Each reference in the 2012 IECC to a specific section, table or other provision in the *International Plumbing Code* shall be deemed to be a reference to the corresponding section, table or provision in the 2010 *Plumbing Code of New York State* (or, in New York City, to the corresponding section, table or provision in the New York City Building Code).

References to the *International Residential Code.* Each reference in the 2012 IECC to the *International Residential Code* shall be deemed to be a reference to the 2010 *Residential Code of New York State* (or, in New York City, to the corresponding portion of the New York City Building Code). Each reference in the 2012 IECC to a specific section, table or other provision in the *International Residential Code* shall be deemed to be a reference to the corresponding section, table or provision in the 2010 *Residential Code of New York State* (or, in New York City, to the corresponding section, table or provision in the New York City Building Code).

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CHAPTER 3
Amendments to ASHRAE 90.1-2010

For the purposes of applying ASHRAE 90.1-2010 in this State, ASHRAE 90.1-2010 shall be deemed to be amended in the manner specified in this Chapter.

1. ASHRAE 90.1-2010 Section 2.2.

Section 2.2 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

2.2 The provisions of this standard do not apply to:

(a) detached one-family dwellings having not more than three stories above grade plane;

(b) detached two-family dwellings having not more than three stories above grade plane;

(c) buildings that (i) consist of three or more attached townhouse units and (ii) have not more than three stories above grade plane;

(d) buildings that (i) are classified in accordance with Chapter 3 of the 2010 edition of the *Building Code of New York State* in Group R-2, R-3 or R-4 and (ii) have not more than three stories above grade plane;

(e) factory manufactured homes (as defined in section 372(8) of the Executive Law); and

(f) mobile homes (as defined in section 372(13) of the Executive Law).

For the purposes of this section 2.2, the term "grade plane" means a reference plane representing the average of finished ground level adjoining the building at exterior walls. Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building and the lot line or, where the lot line is more than 6 feet (1829 mm) from the building, between the building and a point 6 feet (1829 mm) from the building, and the term "townhouse unit" means a single-family dwelling unit constructed in a group of three or more attached units in which each unit (i) extends from the foundation to roof and (ii) has open space on at least two sides.

The provisions of this standard do apply to all buildings not included in (a), (b), (c), (d), (e) of (f) of this Section 2.2. In particular, but not by way of limitation, the provisions of this standard do apply to detached one-family dwellings having more than three stories above grade plane.

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2. ASHRAE 90.1-2010 Section 8.2.1 (Compliance path(s)).

Section 8.2.1 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

8.2.1 Power distribution systems in all projects shall comply with the requirements of Section 8.1, General; Section 8.4, Prescriptive Provisions; and Section 8.7, Submittals.

3. ASHRAE 90.1-2010 Section 8.4 (currently entitled "Mandatory Provision").

The caption of Section 8.4 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

8.4 Prescriptive provisions

4. ASHRAE 90.1-2010 Section 8.4.1 ("Voltage Drop").

The "Exception" in Section 8.4.1 of ASHRAE 90.1-2010 shall be deemed to be deleted.

5. ASHRAE 90.1-2010 Section 9.4.1 (Lighting Control).

Section 9.4.1 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

9.4.1 Lighting Control. Building controls shall meet the provisions of 9.4.1.1,9.4.1.2, 9.4.1.3, 9.4.1.5, 9.4.1.6, and 9.4.1.7.

Any automatic control device required in sections 9.4.1.1, 9.4.1.2, and 9.4.1.6 shall either be manual on or shall be controlled to automatically turn the lighting on to not more than 50% power, except in the following spaces where full automatic-on is allowed;

a. public corridors and stairwells,

b. restrooms,

c. primary building entrance areas and lobbies, and

d. areas where manual-on operation would endanger the safety or security of the room or building occupant(s).

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6. ASHRAE 90.1-2010 Section 9.4.1.4 (currently entitled "Automatic Day lighting Control for *Primary Side lighted Areas*").

The caption of section 9.4.1.4 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

9.2.2.4. Automatic Day lighting Control for *Primary Side lighted Areas* (Prescriptive)

7. ASHRAE 90.1-2010 Section 11.1.4 (Compliance).

Section 11.1.4 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

11.1.4 Compliance. Compliance with Section 11 will be achieved if:

a. all requirements of Sections 5.4, 6.4, 7.4, 9.4 and 10.4 are met. The proposed design need not meet the requirements of Section 9.2.2.4, but the *budget building design* and *energy cost budget* shall reflect meeting the requirements of 9.2.2.4;

b. the *design energy cost*, as calculated in Section 11.3, does not exceed the *energy cost budget*, as calculated by the simulation program described in Section 11.2; and

c. the energy *efficiency* level of components specified in the building design meet or exceed the *efficiency* levels used to calculate the *design energy cost.*

8. ASHRAE 90.1-2010, Table 11.3.1 (Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget), (Energy Cost Budget Method), Modeling Requirements for Calculating Proposed and Budget Building Design), Section 6 (Lighting), Budget Building Design (Column B) Energy Cost Budget (ECB).

The entry in the "Budget Building Design" column of Section 6 of Table 11.3.1 ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

Lighting power in the *Budget building design* shall be determined using the same categorization procedure (building area or space-by-space method) and categories as the *proposed design* with lighting power set equal to the maximum allowed for the

corresponding method and category in either Section 9.5 or 9.6 Power for the fixtures not included in the LPD calculation shall be modeled identically in the proposed building design and budget building design. Lighting controls shall be the minimum required.

Automatic Daylighting Controls for *Primary Sidelighted Areas* shall be modeled with the following parameters:

- Light Output and Power Fractions shall be as follows based on type of dimming control modeled:
    - Stepped Dimming: Light output and power shall decrease in equivalent steps of 100%, 66%, and 33%; or
    - Continuous Dimming: Light output and power shall both decrease continuously to 33% of peak output and power.
- The daylight control reference point(s) shall be located at the center of the width and at the depth of the *primary sidelighted area*. If the *primary sidelighted area* includes apertures with orientations that differ by more than 45 degrees, then the model shall include one daylight control reference point for each orientation. (Note: if the modeling tool is limited by the number of daylight control reference points allowed per zone then the number of zones modeled may need to be increased.)
- The fraction of lighting power affected by the daylight control shall be equal to the *primary sidelighted area* divided by the total area within a thermal block.
- Illumination setpoint(s) shall be as follows:

Space Type		**Illumination Setpoint (FC)**
Common Space Types		
Atrium		35
Audience/Seating Area - Permanent		35
	For Auditorium	35
	For Performing Arts Theater	35
	For Motion Picture Theater	35
Classroom/Lecture/Training		50
Conference/Meeting/Multipurpose		50
Corridor/Transition		35
Dining Area		35
	For Bar Lounge/Leisure Dining	35
	For Family Dining	35
Dressing/Fitting Room		
	For Performing Arts Theater	35
Food Preparation		50
Laboratory		
	For Classroom	50
	For MedicallIl1dustriallResearch	50

Lobby		35
	For Elevator	35
	For Performing Arts Theater	35
	For Motion Picture Theater	35
Locker Room		35
Lounge/Recreation		50
Office		
	Enclosed	50
	Open Plan	50
Restrooms		35
Sales Area (Retail)		Exempt
Stairway		35
Storage		35
Workshop		50

Building Specific Space Types

Automotive		
	Service/Repair	35
Bank/Office		
	Banking Activity Area	50
Convention Center		
	Audience Seating	35
	Exhibit Space	35
Courthouse/Police Sta./Penitentiary		
	Courtroom	50
	Confinement Cells	50
	Judges Chambers	50
	Penitentiary Audience	35
	Penitentiary Classroom	50
	Penitentiary Dining	35
Dormitory		
	Living Quarters	35
Fire Stations		
	Engine Room	50
	Sleeping Quarters	35
Gymnasium/Exercise Center		35
	Fitness Area	35
	Gymnasium Audience Seating	35
	Playing Area	35
Hospital		
	Corridor/Transition	50
	Emergency	50
	Exam/Treatment	50

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	Laundry-Washing	35
	Lounge/Recreation	50
	Medical Supply	50
	Nursery	50
	Nurse Station	50
	Operating Room	35
	Patient Room	50
	Pharmacy	50
	Physical Therapy	50
	Radiology	35
	Recovery	50
Hotel/Highway Lodging		
	Hotel Dining	35
	Hotel Guest Rooms	35
	Hotel Lobby	35
	Highway Lodging Dining	35
	Highway Lodging Guest Rooms	35
Library		
	Card File and Cataloging	50
	Reading Area	50
	Stacks	50
Manufacturing		
	Corridor/Transition	35
	Detailed Manufacturing	50
	Equipment Room	50
	Extra High Bay (> 50 ft Floor to Ceiling Height)	50
	High Bay (25 - 50 ft Floor to Ceiling Height)	50
	Low Bay (<25 ft Floor to Ceiling Height)	50
Museum		
	General Exhibition	35
	Restoration	50
Parking Garage		
	Garage Area	35
Post Office		
	Sorting Area	50
Religious Buildings		
	Audience Seating	35
	Fellowship Hall	35
	Worship Pulpit, Choir	50
Retail		
	Dressing/Fitting Room	Exempt
	Sales Area	Exempt
	Mall Concourse	Exempt

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Sports Arena		
	Audience Seating	35
	Court Sports Arena-Class 4	35
	Court Sports Arena-Class 3	35
	Court Sports Arena-Class 2	35
	Court Sports Arena-Class 1	35
	Ring Sports Arena	35
Transportation		
	Air/Train/Bus - Baggage Area	35
	Airport - Concourse	35
	Audience Seating	35
	Terminal - Ticket Counter	50
Warehouse		
	Fine Material Storage	50
	Medium/Bulky Material Storage	35

9. ASHRAE 90.1-2010 Table 11.3.1 (Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget), Section 12 (Miscellaneous Loads), Proposed Building Design (Column A) Design Energy Cost (DEC).

The following item shall be deemed to be added to the "Proposed Building Design (Column A) Design Energy Cost (DEC)" column of Section 12 of Table 11.3.1 of ASHRAE 90.1-2010:

> When the *voltage drop* in the *proposed design* is greater than the requirements of Section 8.4, then *voltage drop* shall be included when calculating the *design energy cost*, and the *voltage drop* shall be based upon that in the *proposed design*.

10. ASHRAE 90.1-2010 Table 11.3.1 (Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget), Section 12 (Miscellaneous Loads), Budget Building Design (Column B) Energy Cost Budget (ECB).

The following items shall be deemed to be added to the "Budget Building Design (Column B) Energy Cost Budget (ECB)" portion of Section 12 of Table 11.3.1 of ASHRAE 90.1-2010:

When *voltage drop* in the *proposed design* is greater than the requirements of Section 8.4, then *voltage drop* shall be included when calculating the *energy cost budget*, and the *voltage drop* shall be based upon requirements Section 8.4 as applied to the *budget building design*.

When the *proposed design* does not meet the requirements in 8.4.2 for Automated Receptacle Control, then the *budget building design* shall include Automated Receptacle Control per 8.4.2, and the *energy cost budget* calculations shall reflect the following reductions in the connected receptacle load for 50% of receptacle loads subject to 8.4.2:

Space Type	Occupied Hours	Unoccupied Hours
Private Offices	22%	100%
Open Office	21%	100%
Computer Classrooms	32%	100%

11. ASHRAE 90.1-2010 Table 11.3.1 (Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget), Section 13 (Modeling Exceptions), Proposed Building Design (Column A) Design Energy Cost (DEC).

Exception "b" in the "Proposed Building Design (Column A) Design Energy Cost (DEC)" column of Section 13 ("Modeling Exceptions") of Table 11.3.1 of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

b. the applicable prescriptive requirements of Sections 5.5, 6.5, 7.5, 8.4, 9.2.2.4, and either 9.5 or 9.6 applying to the excluded components are met.

12. ASHRAE 90.1-2010 Normative Appendix G (Performance Rating Method), Section G1.2 (Performance Rating).

Section G1.2 of Normative Appendix G of ASHRAE 90.1-2010 shall be deemed to be amended by the addition of a new Exception to read as follows:

Exception: The proposed design need not meet the requirements of Section 9.2.2.4, but the *Budget building design* and *Budget building performance* shall reflect meeting the requirements of 9.2.2.4.

13. ASHRAE 90.1-2010 Normative Appendix G (Performance Rating Method), Section G1.3 (Trade-Off Limits).

Section G1.3 of Normative Appendix G of ASHRAE 90.1-2010 shall be deemed to be amended as follows:

> **Gl.3 Trade-Off Limits.** When the proposed modifications apply to less than the whole building, only parameters related to the systems to be modified shall be allowed to vary. Parameters relating to unmodified existing conditions or to future building components shall be identical for determining both the *baseline building performance* and the *proposed building performance*. Future building components shall meet the prescriptive requirements of Sections 5.5, 6.5, 7.5, 9.2, 9.5, and 9.6.

14. ASHRAE 90.1-2010 Normative Appendix G (Performance Rating Method), Section G1.4 (Documentation Requirements).

Item ”e ” in section G1.4 of Normative Appendix G of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

e. A list identifying those aspects of the proposed design that are less stringent than the requirements of 5.5, 6.5, 7.5, 8.4, 9.2.2.4, 9.5, and 9.6 (prescriptive provisions).

15. ASHRAE 90.1-2010 Normative Appendix G (Performance Rating Method), Table G3.1 (Modeling Requirements for Calculating Proposed and Baseline Building Performance), Section 6 (Lighting), Baseline Building Performance column.

The entry in the “Baseline Building Performance” column of Section 6 of Table G3.1 in Normative Appendix G of ASHRAE 90.1-2010 shall be deemed to be amended to read as follows:

> Lighting power in the *baseline building design* shall be determined using the same categorization procedure (building area or space-by-space method) and categories as the

proposed design with lighting power set equal to the maximum allowed for the corresponding method and category in Section 9.2. Lighting shall be modeled having the automatic and manual controls required in Section 9.2.2.4 and 9.4. No additional automatic lighting controls shall be modeled in the *baseline building design*, as the lighting schedules used are understood to reflect the mandatory control requirements in this standard.

Automatic Daylighting Controls for *Primary Sidelighted Areas* shall be modeled with the following parameters:

- Light Output and Power Fractions shall be as follows based on type of dimming control modeled:
    - Stepped Dimming: Light output and power shall decrease in equivalent steps of 100%, 66%, and 33%; or
    - Continuous Dimming: Light output and power shall both decrease continuously to 33% of peak output and power.
- The daylight control reference point(s) shall be located at the center of the width and at the depth of the *primary sidelighted area*. If the *primary sidelighted area* includes apertures with orientations that differ by more than 45 degrees, then the model shall include one daylight control reference point for each orientation. (Note: if the modeling tool is limited by the number of daylight control reference points allowed per zone then number of zones modeled may need to be increased.)
- The fraction of lighting power affected by the daylight control shall be equal to the *primary sidelighted area* divided by the total area within a thermal block.
- Illumination setpoint(s) shall be as follows:

Space Type		**Illumination Setpoint (FC)**
Common Space Types		
Atrium		35
Audience/Seating Area - Permanent		35
	For Auditorium	35
	For Performing Arts Theater	35
	For Motion Picture Theater	35
Classroom/Lecture/Training		50
Conference/Meeting/Multipurpose		50
Corridor/Transition		35
Dining Area		35
	For Bar Lounge/Leisure Dining	35
	For Family Dining	35
Dressing/Fitting Room		
	For Performing Arts Theater	35
Food Preparation		50
Laboratory		

	For Classroom	50
	For MedicallIl1dustriallResearch	50
Lobby		35
	For Elevator	35
	For Performing Arts Theater	35
	For Motion Picture Theater	35
Locker Room		35
Lounge/Recreation		50
Office		
	Enclosed	50
	Open Plan	50
Restrooms		35
Sales Area (Retail)		Exempt
Stairway		35
Storage		35
Workshop		50

Building Specific Space Types

Automotive		
	Service/Repair	35
Bank/Office		
	Banking Activity Area	50
Convention Center		
	Audience Seating	35
	Exhibit Space	35
Courthouse/Police Sta./Penitentiary		
	Courtroom	50
	Confinement Cells	50
	Judges Chambers	50
	Penitentiary Audience	35
	Penitentiary Classroom	50
	Penitentiary Dining	35
Dormitory		
	Living Quarters	35
Fire Stations		
	Engine Room	50
	Sleeping Quarters	35
Gymnasium/Exercise Center		35
	Fitness Area	35
	Gymnasium Audience Seating	35
	Playing Area	35
Hospital		
	Corridor/Transition	50

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	Emergency	50
	Exam/Treatment	50
	Laundry-Washing	35
	Lounge/Recreation	50
	Medical Supply	50
	Nursery	50
	Nurse Station	50
	Operating Room	35
	Patient Room	50
	Pharmacy	50
	Physical Therapy	50
	Radiology	35
	Recovery	50
Hotel/Highway Lodging		
	Hotel Dining	35
	Hotel Guest Rooms	35
	Hotel Lobby	35
	Highway Lodging Dining	35
	Highway Lodging Guest Rooms	35
Library		
	Card File and Cataloging	50
	Reading Area	50
	Stacks	50
Manufacturing		
	Corridor/Transition	35
	Detailed Manufacturing	50
	Equipment Room	50
	Extra High Bay (> 50 ft Floor to Ceiling Height)	50
	High Bay (25 - 50 ft Floor to Ceiling Height)	50
	Low Bay (<25 ft Floor to Ceiling Height)	50
Museum		
	General Exhibition	35
	Restoration	50
Parking Garage		
	Garage Area	35
Post Office		
	Sorting Area	50
Religious Buildings		
	Audience Seating	35
	Fellowship Hall	35
	Worship Pulpit, Choir	50
Retail		
	Dressing/Fitting Room	Exempt

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	Sales Area	Exempt
	Mall Concourse	Exempt
Sports Arena		
	Audience Seating	35
	Court Sports Arena-Class 4	35
	Court Sports Arena-Class 3	35
	Court Sports Arena-Class 2	35
	Court Sports Arena-Class 1	35
	Ring Sports Arena	35
Transportation		
	Air/Train/Bus - Baggage Area	35
	Airport - Concourse	35
	Audience Seating	35
	Terminal - Ticket Counter	50
Warehouse		
	Fine Material Storage	50
	Medium/Bulky Material Storage	35

16. ASHRAE 90.1-2010 Normative Appendix G (Performance Rating Method), Table G3.1 ("Modeling Requirements for Calculating Proposed and Baseline Building Performance"), Section 12 (Receptacle and other loads), Proposed Building Performance column.

The following item shall be deemed to be added to the "Proposed Building Performance" column of Section 12 of Table G3.1 in Normative Appendix G of ASHRAE 90.1-2010:

> If *voltage drop* in the *proposed design* is greater than the requirements of Section 8.4, then *voltage drop* shall be included when calculating the *proposed building performance*, and the *voltage drop* shall be based upon that in the *proposed design*.

17. ASHRAE 90.1-2010 Normative Appendix G (Performance Rating Method), Table G3.1 ("Modeling Requirements for Calculating Proposed and Baseline Building Performance"), Section 12 (Receptacle and other loads), Baseline Building Performance column.

The following items shall be deemed to be added to the "Baseline Building Performance" column of Section 12 of Table G3.1 in Normative Appendix G of ASHRAE 90.1-2010:

> If *voltage drop* in the *proposed design* is greater than the requirements of Section 8.4, then *voltage drop* shall be included when calculating the *baseline building performance*, and the *voltage drop* shall be based upon requirements Section 8.4, as applied to the *baseline building*.

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When the *proposed design* does not meet the requirements in 8.4.2 for Automated Receptacle Control, then the *baseline building performance* shall include Automated Receptacle Control per 8.4.2, and the *baseline building performance* calculations shall reflect the following reductions in the connected receptacle load for 50% of receptacle loads subject to 8.4.2:

Space Type	Occupied Hours	Unoccupied Hours
Private Offices	22%	100%
Open Office	21%	100%
Computer Classrooms	32%	100%

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CHAPTER 4

Referenced Standards for the New York State Commercial Energy Code

NOTE: The standards that are described in this Chapter are incorporated by reference into 19 NYCRR Part 1240. In the following list of standards, the abbreviation of the name of the publisher (e.g., "AHRI" for the Air Conditioning, Heating, and Refrigeration Institute) is given, followed by the full name and the address of the publisher, followed by a list of the standards published by the publisher that are incorporated by reference into 19 NYCRR Part 1240.

The list of standards includes, for each standard, the standard reference number (e.g., "440-08"), the title of the standard (e.g. "Room Fan Coil"), and the publication date of standard that is being incorporated by reference into 19 NYCRR Part 1240.

For a list of the sections in the 2012 IECC in which the standards listed here are referenced, see Chapter C5 in the Commercial Provisions of the 2012 IECC (including the provisions of Chapter C5 of the 2012 IECC as amended by paragraph 30 in Chapter 2 of this *2014 Supplement*.

Copies of the standards can be obtained from the publishers named below at the addresses indicated below.

AHRI Air Conditioning, Heating, and Refrigeration Institute
4100 North Fairfax Drive
Suite 200
Arlington, VA 22203

Standard reference number	**Title**	**Publication date**
* 440-08	Room Fan Coil	2008
* 840-98	Unit Ventilators	1998

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

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ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle, NE
Atlanta, GA 30329-2305

Standard reference number	Title	Publication date
* ASHRAE-2004	ASHRAE HVAC Systems and Equipment Handbook—2004	2004
* ASHRAE 90.1-2010	Energy Standard for Buildings Except Low-rise Residential Buildings (ASHRAE 90.1-2010) NOTE: ASHRAE 90.1-2010 is published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., is jointly sponsored by the Illuminating Engineering Society of North America and the American National Standards Institute, and is also known as ANSI/ASHRAE/IES 90.1—2010	2010

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

ASTM ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2859

Standard reference number	Title	Publication date
* E 96-00	Standard Test Methods for Water Vapor Transmission of Materials (Vapor Retarder)	2000
* E 779-03	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization	2003

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

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CSA Canadian Standards Association
5060 Spectrum Way
Mississauga, Ontario, Canada L4W 5N6

Standard reference number	Title	Publication date
*AAMA/ WDMA/CSA 101/I.S.2/ A440-11	North American Fenestration Standard/ Specification for Windows, Doors and Unit Skylights	2011

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

DOE United States Department of Energy
c/o Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402-9325

Standard reference number	Title	Publication date
* Appendix N to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations - 2009	Uniform Test Method for Measuring the Energy Consumption of Furnaces and Boilers	2009

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

SMACNA Sheet Metal and Air Conditioning Contractors National Association, Inc.
4021 Lafayette Center Drive
Chantilly, VA 20151-1209

Standard reference number	Title	Publication date
* SMACNA-85	HVAC Air Duct Leakage Test Manual	1985

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

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UL Underwriters Laboratories
333 Pfingsten Road
Northbrook, IL 60062-2096

Standard reference number	**Title**	**Publication date**
* 727-06	Standard for Oil-Fired Central Furnaces, Ninth Edition, including revisions through April 22, 2010	2010 (Note: The Ninth Edition of the *Standard for Oil-Fired Central Furnaces* was originally published on April 7, 2006. The version of this standard that is being incorporated by reference in 19 NYCRR Part 1240 includes revisions through April 22, 2010, and was published in 2010)
* 731-95	Oil-fired Unit Heaters—with Revisions through April 2010	1995

* Denotes standard that is incorporated by reference into 19 NYCRR Part 1240

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