

NEW YORK CITY DEPARTMENT OF BUILDINGS

Notice of Public Hearing and Opportunity to Comment on Proposed Rules

What are we proposing? The Department of Buildings (DOB) is proposing to amend the rule implementing the New York City Energy Conservation Code to conform to proposed changes in the New York City Energy Conservation Code that are necessitated by updates to the New York State Energy Code, and that went into effect on October 3, 2016.

When and where is the hearing? DOB will hold a public hearing on the proposed rule. The public hearing will take place at 10am on 7/20/17. The hearing will be in the 3rd floor conference room at 280 Broadway.

This location has the following accessibility option(s) available: Wheelchair accessibility.

How do I comment on the proposed rule? Anyone can comment on the proposed rule by:

- **Website.** You can submit comments to DOB through the NYC rules Web site at <http://rules.cityofnewyork.us>.
- **Email.** You can email written comments to dobrules@buildings.nyc.gov.
- **Mail.** You can mail written comments to the New York City Department of Buildings, Office of the General Counsel, 280 Broadway, 7th floor, New York, NY 10007.
- **Fax.** You can fax written comments to the New York City Department of Buildings, Office of the General Counsel, at 212-566-3843.
- **By speaking at the hearing.** Anyone who wants to comment on the proposed rule at the public hearing must sign up to speak. You can sign up before the hearing by calling 212-393-2085. You can also sign up in the hearing room before the hearing begins on 7/20/17. You can speak for up to three minutes.

Is there a deadline to submit written comments? Yes, you must submit any written comments by 7/20/17.

Do you need assistance to participate in the hearing? You must tell the DOB Office of the General Counsel if you need a reasonable accommodation of a disability at the hearing other than the one(s) indicated above. You must tell us if you need a sign language interpreter. You can tell us by mail or email at the addresses given above. You may also tell us by telephone at 212-393-2085. You must tell us by 7/6/17.

Can I review the comments made on the proposed rule? You can review the comments made online on the proposed rule by going to the website at <http://rules.cityofnewyork.us/>. A few days after the hearing, copies of all comments submitted online, copies of all written comments and a summary of oral comments received at the hearing will be available to the public at the Office of the General Counsel.

What authorizes DOB to make this rule? Sections 643 and 1043(a) of the City Charter authorize DOB to make this proposed rule. Local Laws 91 and 125 of 2016 amended the New York City Energy Conservation Code and went into effect on October 3, 2016. This rule is being proposed in coordination with Local Laws 91 and 125 of 2016. Revision of this rule was included in DOB's regulatory agenda for this Fiscal Year.

Where can I find DOB's rules? DOB's rules are in Title 1 of the Rules of the City of New York.

What rules govern the rulemaking process? DOB must meet the requirements of Section 1043 of the City Charter when creating or changing rules. This notice is made according to the requirements of Section 1043(b) of the City Charter.

Statement of Basis and Purpose

New York City Council's Local Laws 91 and 125 of 2016 were enacted on August 3, 2016 and October 18, 2016 respectively, and went into effect on October 3, 2016 (with Local Law 125 taking effect retroactive to October 3, 2016 upon its enactment). They update the New York City Energy Conservation Code ("City Energy Code") to comply with the requirements of the State Energy Law and the 2016 updates to the New York State Energy Code ("State Energy Code"). This proposal amends the rule implementing the City Energy Code, 1 RCNY 5000-01, to conform to the changes to the City Energy Code in Local Laws 91 and 125. The rule also reflects changes in the State Energy Code regarding specific tests, inspections and code references.

Specifically, this proposed amendment to Section 5000-01:

- adds and removes progress inspections to correspond to City Energy Code requirements that come into effect with Local Laws 91 and 125 of 2016, including two new required progress inspections related to solar-ready requirements and air sealing and insulation testing.
- clarifies the versions of REScheck and COMcheck which may be used to demonstrate compliance with the City Energy Code.
- clarifies the requirements for submitting supporting documentation.

References in this proposed rule to the Administrative Code or the New York City Energy Conservation Code mean the Administrative Code of the City of New York or the New York City Energy Conservation Code, respectively, as amended by Local Laws 91 and 125.

The Department of Buildings' authority for this rule is found in sections 643 and 1043 of the New York City Charter. Section 5 of Local Law 91 authorizes DOB to promulgate rules implementing the changes to the City Energy Code. Section 3 of Local Law 91 repeals and replaces section 28-1001.2 of the Administrative Code, and includes authority for DOB to issue this proposed rule. Local Law 125 makes additional amendments to Chapter 10 of Title 28 of the Administrative Code for consistency with the August 2016 amendments to the New York State Energy Code.

New material is underlined.

[Deleted material is in brackets.]

“Shall” and “must” denote mandatory requirements and may be used interchangeably in the rules of this department, unless otherwise specified or unless the context clearly indicates otherwise.

Proposed Rule Amendment

Section 1. Subdivision (c) of section 5000-01 of title 1 of the rules of the city of New York is amended to read as follows:

(c) *Definitions.* For the purposes of this chapter, the following terms shall have the following meanings:

ADDITION. An addition as defined in the Energy Code.

APPROVED PROGRESS INSPECTION AGENCY. An approved progress inspection agency as described in subparagraph (iii) of paragraph (3) of subdivision (c) of section 101-07 of the rules of the Department.

ASHRAE 90.1. American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Standard 90.1-[2010]2013 as defined in the New York State Energy Conservation Construction Code and amended by Appendix [A] CA of the Energy Code.

COMMERCIAL BUILDING. A commercial building as defined in the Energy Code.

DESIGN APPLICANT. An applicant of record who develops, signs and seals the construction drawings. The design applicant may be someone other than the registered design professional who prepares, signs and seals the energy analysis.

ENERGY CODE. The New York City Energy Conservation Code (“ECC”), as defined in Chapter 10 of Title 28 of the Administrative Code.

HISTORIC BUILDING. A historic building as described in the [ECC] Energy Code.

PROJECT. A project as defined in the Energy Code.

REGISTERED DESIGN PROFESSIONAL. A registered design professional as defined in the Energy Code.

RESIDENTIAL BUILDING. A residential building as defined in the Energy Code.

§2. Subdivision (d) of section 5000-01 of title 1 of the rules of the city of New York is amended to read as follows:

(d) *Applicability.*

(1) *Applicable version and edition of Energy Code.* Applications must comply with the Energy Code version and edition in effect when the application is filed, continuing through construction and sign-off of the application by the Department.

(2) *Commercial building projects.* All applications related to a single commercial building project must follow either ECC Chapters C2 through [C5]C6 or ASHRAE 90.1 in its entirety and as modified by ECC Appendix [A]CA.

(i) *ECC Compliance Path.* Vertical fenestration is allowed up to 30% of the gross wall area, prescriptively. Commercial buildings with vertical fenestration exceeding 30% of the above-grade wall must provide daylighting controls in accordance with ECC provisions to a maximum fenestration area of 40% of the gross above-grade wall area.

(ii) *ASHRAE 90.1 Compliance Path.* Vertical fenestration is allowed up to 40% of the gross wall area, prescriptively. If the vertical fenestration exceeds 40% of the gross wall area, the design team must use energy modeling in accordance with Section 11 of ASHRAE 90.1 (“Energy Cost Budget Method”) or Appendix G of ASHRAE 90.1 (“Performance Rating Method”) and as provided in subparagraph (iv) of paragraph (1) of subdivision (f) of this section or Section 5.6 of ASHRAE 90.1 (“Building Envelope Trade-off Option”).

(3) *Identification of related applications.* Applicants must indicate in the application form all applications related to the project or, if an application has not yet been filed, the name of the applicant or the applicant’s firm and discipline for any anticipated related applications.

§3. Subparagraph (ii) of paragraph 2 of subdivision (e) of section 5000-01 of title 1 of the rules of the city of New York is amended to read as follows:

(ii) *Envelope of low-energy building.* All the proposed work is related to the envelope system of a low-energy or unconditioned building, as described in ECC Chapter [1]C4 or ECC Chapter R4.

§4. The undesignated opening paragraph, paragraph (1), subparagraph (i) of paragraph (1), clause (D) of subparagraph (ii) of paragraph (1), clause (D) of subparagraph (iii) of paragraph (1), and paragraph (2) of subdivision (f) of section 5000-01 of title 1 of the rules of the city of New York, are amended to read as follows:

(f) *Energy analysis.* An energy analysis is required for every project that is not entirely exempt. The energy analysis shall identify the compliance path followed, demonstrate how the project design complies with the Energy Code and, for commercial projects, indicate whether the project is designed in accordance with ECC Chapters C2 through [C5]C6 or with ASHRAE 90.1.

(1) *Accepted formats for energy analysis.* One of the following formats may be used to present the energy analysis:

(i) *Tabular analysis.* For new buildings, additions and/or alterations to existing residential or commercial buildings for which either ECC [Chapter 4]Chapters R2 through R6, ECC Chapters C2 through [C5]C6 or ASHRAE 90.1 has been used, the applicant may create a table entitled “Energy Analysis” as described in figure 1.

Such table shall compare the proposed values of each Energy Code regulated item in the scope of work with the respective prescriptive values required by the

Energy Code. The items shall be organized by discipline, including Envelope Systems, Mechanical and Service Water Heating Systems, [and] Lighting and Electrical Systems, Additional Efficiency Options, and Commissioning as applicable.

For commercial building additions and/or alterations involving lighting, the applicant may choose to utilize the Lighting Application Worksheet from COMcheck for the lighting part of the analysis in lieu of including lighting in the tabular analysis; however, the supporting documentation index must provide a breakdown of each lighting fixture to clarify the location per room type or floor. See subparagraph (iii) of this paragraph and Figure 2 in subdivision (g) of this section.

* * *

(D) *REScheck version.*

1. Only the [New York State] New York City version of the REScheck form is permitted.
2. For applications filed on or after [December 28, 2010,] October 3, 2016, the report must specify the [2010 Energy Conservation Construction Code of New York State] 2016 New York City Energy Conservation Code.
3. For applications filed before [December 28, 2010,] October 3, 2016, the report must specify the edition of REScheck that matches the edition of the Energy Conservation Construction Code of New York State in effect when the application was filed.

* * *

(D) *COMcheck versions.*

1. Only the [New York State] New York City version[s] of the COMcheck [forms are] form is permitted when following the New York City Energy Conservation Code. Only the 90.1 (2013) Standard version of the COMcheck form is permitted when following ASHRAE 90.1, provided that a New York City version of COMcheck for ASHRAE is unavailable.
2. For applications filed on or after [January 1, 2015] October 3, 2016, the report must specify the [New York State Energy Code] New York City Energy Conservation Code or New York [State] City amended ASHRAE 90.1. In the event that a [New York State-specific] New York City-specific version is no longer supported, the report must specify the applicable IECC or ASHRAE 90.1 version of the software.

[3. All three parts of the COMcheck report—the envelope, the mechanical/service water heating and the lighting/power parts—shall be presented, except where the project type is an addition or alteration as described above and some parts of the report are not relevant to the scope of work.]

(2) *Mixed-occupancy buildings three stories or fewer.* In accordance with section ECC [101.4.6]~~101.4.1~~, buildings three stories or fewer above grade with mixed residential and non-residential occupancies must comply with the respective requirements of Chapters [2 through 4]~~R2 through R6~~ and Chapters C2 through [C5]~~C6~~ or ASHRAE 90.1, and must have separate energy analyses, except that a tabular analysis format or energy modeling may be used to show both the residential and non-residential requirements.

§5. The undesignated opening paragraph and paragraph (1) of subdivision (g) of section 5000-01 of title 1 of the rules of the city of New York are amended to read as follows:

(g) *Supporting documentation.* The construction drawings submitted for approval shall provide all energy design elements and shall match or exceed the energy efficiency of each value in each part of the energy analysis – envelope, mechanical/service water heating and lighting/power. The supporting documentation shall be listed in a table that serves as an indexing guide to the construction document set. Such table shall list the proposed values of each Energy Code-regulated item in the scope of work with the respective location in the drawing set. Such table is not required if the location of the supporting documentation is included in a column added to the Tabular Analysis described in figure 1.

In addition, other mandatory Energy Code requirements shall be provided as described in paragraphs 1 through 5 of this subdivision.

Further, supporting documentation shall provide all information necessary for a progress inspector to verify during construction that the building has been built in accordance with the approved construction documents to meet the requirements of the Energy Code.

For additions and alterations, the applicant must clearly show those physical portions of the systems that are being brought up to code and those that are not being upgraded.

(1) *Envelope.* Building wall sections and details shall be provided for each unique type of roof/ceiling, wall, and either the foundation, slab-on-grade, basement or cellar assembly. Such building wall sections shall show each layer of the assembly, including, but not limited to, insulation, moisture control and air barriers. If continuous insulation is indicated, it must be fully continuous, uninterrupted by framing, slab edges, shelf angles, or any other continuous breaks in the insulation. The insulation in each case shall be labeled and shall be equal to or greater than the R values, and an assembly in each case shall be equal to or less than the assembly U factors, in the energy analysis.

Door, window and skylight schedules shall include columns for U-factors, VT and SHGC values for each fenestration assembly type, and such values shall be equal to or less than those in the energy analysis. Mandatory requirements to prevent air leakage shall be detailed. [Siding attachment over foam sheathing shall comply with the Energy Code as required.]

§6. Paragraphs 3, 4 and 5 of subdivision (g) of section 5000-01 of title 1 of the rules of the city of New York are amended to read as follows:

(3) *Electrical*. The applicant must provide supporting documents for lighting, power and controls on either electrical drawings or drawings of other disciplines as appropriate. Such documents must:

- support the energy analysis;
- satisfy mandatory requirements of the Energy Code, such as controls, transformers, metering, voltage drop and electric motor requirements; and
- support progress inspections required by this section.

The drawings must be numbered with an “E,” “EN” or other discipline designator and must be signed and sealed by a registered design professional. If the registered design professional is an electrical engineer, the engineer must file a PW1 form as an initial or subsequent filing and indicate either “Electrical” or “Energy” in Section 6D, OT – Other.

(i) *Interior and exterior lighting*. Supporting documentation for lighting must be as follows:
(A) *Commercial buildings, except dwelling units*. The applicant shall provide reflected ceiling plans, floor plans and/or electrical drawings with lighting layouts for each floor or space in the project, and for exterior lighting as applicable.

The lighting fixtures shall be described and keyed to the lighting plans, including type designation, brief description, locations, lamp type, ballast/transformer type, watts per lamp, quantity of lamps per fixture, and system input watts per fixture, such that the drawings support the energy analysis.

In addition, mandatory lighting and power controls shall be shown and described, and a narrative provided describing their function and operation.

Control devices and zones shall be indicated on drawings.

(B) *Dwelling units in residential and commercial buildings*. In homes and dwelling units, the applicant must indicate on floor plans what fixtures are to be installed with high-efficacy lamps, and where the separate meter for each dwelling unit is located.

(ii) *Exterior lighting zones*. Exterior lighting zones as set forth in ECC [Table C405.6.2(1)] Table C405.5.2(1) correspond with the following zoning districts in the New York City Zoning Resolution:

- | | |
|------------------|---|
| Lighting zone 1: | Park land. |
| Lighting zone 2: | All R districts, R districts with C overlays and MX districts. |
| Lighting zone 3: | M districts, except MX; C districts, except C5, C6 and C overlays on R districts. |
| Lighting zone 4: | C5 and C6 districts. |

(iii) [*Fan*] Electrical *motors and controls*. [*Fan*]Electrical motor horsepower and controls must be shown on the drawings and described.

(iv) [*Feeders*]. For applications using ASHRAE 90.1 for prescriptive compliance, calculated feeder voltage drops must be provided in accordance with ASHRAE 90.1.] Electrical submetering. Projects requiring electrical submetering and/or monitoring must clearly indicate

on the drawings that submetering and/or monitoring will be provided in accordance with the Energy Code.

(v) *Automatic receptacle controls.* For applications using ASHRAE 90.1[for prescriptive compliance], 50 percent of the receptacles must be automatically controlled and clearly shown on the drawings in accordance with ASHRAE 90.1.

(4) *Mandatory requirements.* The construction documents shall comply with all mandatory requirements of the Energy Code.

(i) For residential buildings, references for such requirements are listed [in Section ECC 401.2] throughout Chapters R2 through R5.

(ii) For commercial buildings complying with the provisions of ECC Chapters C2 through C5, references for such requirements are listed throughout Chapters C2 through C5; for commercial buildings complying with ASHRAE 90.1, such requirements are set forth throughout the referenced standard.

(iii) *Commissioning statement.* Every application filed by a registered design professional for approval of construction documents for a new building or alteration under the commercial provisions of ECC shall include a statement of either compliance with or exemption from the commissioning requirements of the Energy Code as described in ECC C408.

(iv) Air barrier testing statement. Every application filed by a registered design professional for approval of construction documents for a new building under the residential provisions of the ECC must include a statement of compliance with the testing requirements of the Energy Code as described in ECC R402.4.1.2 or R402.4.1.3. Every application filed by a registered design professional for approval of construction documents for a new building under the commercial provisions of the ECC must include a statement of either compliance with or exemption from the air barrier testing requirements of the Energy Code as described in ECC C402.5.1.3. Applications indicating compliance with the air barrier testing requirements under the commercial provisions must be tested in accordance with ASTM E 779 at a pressure differential of 0.3 inch water gauge (75 Pa) or an equivalent method approved by the code official and deemed to comply with the air leakage requirements when the tested air leakage rate of the building thermal envelope is not greater than 0.4 cfm/ft². Air barrier testing, when required, must be performed by a third-party independent of the contractor and acceptable to the department.

(5) *Permanent certificate in residential buildings.* For residential buildings, the construction documents shall indicate the following in accordance with Section ECC R401.3:

(i) *New buildings.* For new buildings regulated under ECC Chapter R4, a permanent certificate shall be required to be installed indoors and in accordance with [Section] Sections ECC R401.3 and RB103.8, except that it may be posted near the electrical distribution panel at eye level and in plain sight.

(ii) *Additions and alterations.* For additions and alterations affecting information on an existing permanent certificate, such permanent certificate shall be updated, initialed where changed and reposted such that the values on the posted permanent certificate remain current.

§7. The undesignated opening paragraph, paragraph (1) and Table I of subdivision (h) of section 5000-01 of title 1 of the rules of the city of New York are amended to read as follows:

(h) *List of progress inspections required.* The following progress inspections and/or testing set forth in Tables I and II shall be required when applicable to the scope of work and shall be identified/described in the supporting documentation and included on the drawings submitted to the Department. Energy Code sections cited in Tables I and II of this section shall be understood to include the section, all subsections, all tables and, when ASHRAE 90.1 is used, appendices related to the cited Energy Code section.

(1) *Residential buildings.* The progress inspections and tests described in Table I shall be performed for buildings regulated by ECC Chapter R4. For heating, cooling and/or service hot water systems in multiple dwellings, including where such systems serve a single dwelling unit, the applicant shall list inspections, tests and citations from Table II, in accordance with Section ECC [403.7]R403.8.

TABLE I – PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – RESIDENTIAL BUILDINGS

Inspection/Test	Frequency (minimum)	Reference Standard (See ECC Chapter R6) or Other Criteria	ECC or Other Citation	
IA	Envelope Inspections			
IA1	Protection of exposed foundation insulation: Insulation shall be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or the perimeter of slab-on-grade floors.	Prior to backfill	Approved construction documents	<u>R303.2.1</u>
IA2	Insulation placement and R-values: Installed insulation for each component of the conditioned space envelope and at junctions between components shall be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation shall be similarly visually inspected.	As required to verify continuous enclosure while walls, ceilings and floors are open	Approved construction documents	<u>R303.1</u> , <u>R303.1.1</u> , <u>R303.1.2</u> , <u>R402.1</u> , <u>R402.2</u> , [402.4.2.2,] Table [402.4.2] <u>R402.4.1.1</u> , <u>R402.4.4</u> , <u>R402.6</u>
IA3	Fenestration U-factor and product ratings: U-factors, SHGC and VT values of installed fenestration shall be verified by visual inspection for conformance with the U-factors, SHGC and VT values identified in the construction drawings, either by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables <u>R303.1.3(1)</u> and (2).	As required during installation	Approved construction drawings; NFRC 100	<u>R303.1</u> , <u>R303.1.3</u> , <u>R402.1</u> , <u>R402.3</u> , [402.6] <u>R402.5</u>
IA4	Fenestration air leakage: Windows, skylights and sliding glass doors, except site-built windows, skylights and doors, shall be visually inspected to verify that installed assemblies are listed and labeled to the referenced standard.	As required during installation	NFRC 400, AAMA/WDMA/CSA 101/I.S.2/A44 0	[402.4.4] <u>R402.4.3</u>
IA5	Fenestration areas: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	<u>R402.3</u>
IA6	Air sealing and insulation – visual inspection: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that they are properly	As required during envelope construction	Approved construction documents; ASTM E283; [ASTM E84;	<u>R402.4.1</u> , [402.4.2.2, 402.4.3] <u>R402.4.4</u> , <u>R402.4.5</u> ,

	sealed, in accordance with Table [402.4.2] <u>R402.4.1.1.</u>		RCNYS]	<u>R402.4.6</u>
IA7	Air sealing and insulation – testing: Testing shall be performed in accordance with section ECC [402.4.2.1] <u>R402.4.1.2</u> and shall be accepted if the building meets the requirements detailed in such section. Test results shall be retained in accordance with the provisions of Title 28. <u>Testing must be performed by a third-party independent of the contractor and acceptable to the department.</u>	Prior to final construction inspection	[ASHRAE/]AS TM E779; <u>ASTM 1827</u> ; ANSI Z65; Approved construction documents	[402.4.2.1] <u>R402.4.1.2</u>
IB	Mechanical and Plumbing Inspections			
IB1	Fireplaces: Provision of combustion air and tight-fitting fireplace doors shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents; <u>UL 127, UL 907, ANSI Z21.60</u> (see also MC 904), ANSI Z21.50	[303.1.5] <u>R402.4.2</u> ; BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IB2	Shutoff dampers: Not less than 20% of installed automatic or gravity dampers, and a minimum of one of each type, shall be visually inspected and physically tested for proper operation.	Prior to final construction inspection	Approved construction documents	[403.5] <u>R403.6</u> , [403.7] <u>R403.8</u> , <u>C403, C404</u>
IB3	HVAC and service water heating equipment: Heating and cooling equipment shall be verified by visual inspection for proper sizing. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection	ACCA Manuals <u>J and S</u> ; Approved construction documents, including energy analysis	[403.6, 403.7, 403.9] <u>R403, C403, C404</u>
IB4	HVAC and service water heating system controls: System controls shall be inspected to verify that each dwelling is provided with at least one individual programmable thermostat with capabilities as described in ECC <u>R403.1.1</u> , and that such controls are set and operate as specified in ECC <u>R403.1.1</u> . Controls for supplementary electric-resistance heat pumps shall be inspected to verify that such controls prevent supplemental heat operation when the heat pump compressor can meet the heating load.	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	[403.1,403.4, 403.7, 404.8, 403.9] <u>R403, C403, C404</u>

	<p>Controls for snow- and ice-melting systems and pools shall be inspected for proper operation. Not less than 20% or one of each control type, whichever is more, shall be inspected.</p> <p>Controls for turning off circulating hot water pumps when not in use shall be inspected for an automatic or manual switch.</p>			
IB5	<p>HVAC insulation and sealing: Installed duct and piping insulation shall be visually inspected to verify correct insulation placement and values. Ducts, air handlers, filter boxes and building cavities used as ducts shall be visually inspected for proper sealing.</p>	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; [RCNYS M1601.3.1]NYC Mechanical Code	[403.2.1, 403.2.2, 403.3,] <u>R403.3</u> R403.4, [403.7] <u>R403.5</u> , <u>R403.8</u> , <u>C403</u> , <u>C404</u> ; MC 603.9
IB6	<p>Duct leakage testing: Where the air handler and/or some ductwork is in unconditioned space, duct-leakage testing shall be performed either after rough-in or post-construction to ensure compliance with ECC [403.2.2] <u>R403.3.3</u> and <u>R403.3.4</u>. Not less than 20% of such ductwork shall be tested.</p>	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents[; ANSI/ASHRA E 152, ASTM E1554 Test Method A]	[403.2.2, 403.7] <u>R403.3.3</u> , <u>R403.3.4</u> , <u>R403.8</u> , <u>C403</u>
IC	Electrical Power and Lighting Systems			
IC1	<p>Electrical energy consumption: The presence and operation of individual meters [or other means of monitoring individual dwelling units] shall be verified by visual inspection for all dwelling units.</p>	Prior to final electrical and construction inspection	Approved construction documents	<u>R404.2</u>
IC2	<p>Interior lighting power: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.</p>	Prior to final electrical and construction inspection	Approved construction documents	<u>R404.1</u>
ID	Other			
ID1	<p>Maintenance information: Maintenance manuals for equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems shall be inspected for accuracy and completeness.</p>	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	<u>R303.3</u>
ID2	<p>Permanent certificate: The installed permanent certificate shall be visually inspected for location, completeness and accuracy.</p>	Prior to final plumbing, electrical and/or construction	Approved construction documents	<u>R401.3</u> , <u>RB103.8</u> ; 1RCNY 5000-

		inspection as applicable		01(g)(5)
ID3	Solar-ready requirements: Solar-ready zone area and electrical service reserved space must be visually inspected to verify compliance. Location shall be noted on the permanent certificate.	<u>Prior to final construction inspection</u>	<u>Approved construction documents</u>	<u>RB103.3,</u> <u>RB103.7,</u> <u>RB103.8</u>

§8. Paragraph 2 and Table II of subdivision (h) of section 5000-01 of title 1 of the rules of the city of New York are amended to read as follows:

(2) Commercial buildings. The progress inspections and tests described in Table II shall be performed for buildings regulated by either ECC Chapters C2 through [C5]C6 or ASHRAE 90.1 as applicable.

TABLE II – PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – COMMERCIAL BUILDINGS

	Inspection/Test	Periodic (minimum)	Reference Standard (See ECC Chapter [C5]C6) or Other Criteria	ECC or Other Citation
IIA	Envelope Inspections			
IIA1	Protection of exposed foundation insulation: Insulation shall be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or the perimeter of slab-on-grade floors.	As required during foundation work and prior to backfill	Approved construction documents	C303.2.1; ASHRAE 90.1 – 5.8.1.7
IIA2	Insulation placement and R-values: Installed insulation for each component of the conditioned space envelope and at junctions between components shall be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation shall be similarly visually inspected.	As required to verify continuous enclosure while walls, ceilings and floors are open	Approved construction documents	C303.1, C303.1.1, C303.1.2, C402.1, C402.2, C402.5.3; ASHRAE 90.1 –5.5, 5.6, [or 11;] 5.8.1, <u>11</u> or <u>Appendix G</u>

IIA3	<p>Fenestration U-factor and product ratings: U-factors, SHGC and VT values of installed fenestration shall be visually inspected for conformance with the U-factors, SHGC and VT values identified in the construction drawings by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables C303.1.3(1), (2) and (3).</p>	As required during installation	Approved construction documents; NFRC 100, NFRC 200	C303.1, C303.1.3, [C402.3] <u>C402.4</u> ; ASHRAE 90.1 –5.5, 5.6, [or 11;] <u>5.8.2, 11 or Appendix G</u>
IIA4	<p>Fenestration air leakage: Windows and [sliding or swinging] door assemblies, except site-built windows and/or doors, shall be visually inspected to verify that installed assemblies are listed and labeled by the manufacturer to the referenced standard. For curtain wall, storefront glazing, commercial entrance doors and revolving doors, the testing reports shall be reviewed to verify that the installed assembly complies with the standard cited in the approved plans.</p>	As required during installation; prior to final construction inspection	NFRC 400, AAMA/WDMA/CSA 101/I.S.2/A440 ASTM E283; ANSI/DASMA 105	[C402.4.3] <u>C402.5.2</u> ; ASHRAE 90.1 –5.4.3.2, <u>5.8.2.2</u>
IIA5	<p>Fenestration areas: Dimensions of windows, doors and skylights shall be verified by visual inspection.</p>	Prior to final construction inspection	Approved construction documents	[C402.3] <u>C402.4</u> ; ASHRAE 90.1 –5.5.4.2, 5.6 [or], 11 <u>or Appendix G</u>
IIA6	<p>Air sealing and insulation – visual inspection: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that a continuous air barrier around the envelope forms an air-tight enclosure. The progress inspector shall visually inspect to verify that materials and/or assemblies have been tested and meet the requirements of the respective standards, or [that the building is tested and meets] must <u>observe the testing of the building and/or assemblies and verify that the building and/or assemblies meet the requirements of the standard</u>, in accordance with the standard(s) cited in the approved plans.</p>	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	[C402.4] <u>C402.5</u> ; ASHRAE 90.1 – 5.4.3.1, <u>5.4.3.5</u>

[IIA7]	[Projection factors: Where the energy analysis utilized a projection factor > 0, the projection dimensions of overhangs, eaves or permanently attached shading devices shall be verified for conformance with approved plans by visual inspection.]	[Prior to final construction inspection]	[Approved construction documents, including energy analysis]	[C402.3; ASHRAE 90.1 – 5.5.4, 5.6 or 11]
IIA7	<u>Air sealing and insulation testing:</u> Testing must be performed in accordance with section ECC C402.5.1.3 or ASHRAE 90.1 section 5.4.3.5, and shall be accepted if the building and/or its air-barrier assemblies meet the requirements detailed in such section. Testing must be performed by a third-party independent of the contractor and acceptable to the department.	<u>As required during construction, or prior to final construction inspection</u>	<u>Approved construction documents; ASTM E 779</u>	<u>C402.5.1.3; ASHRAE 90.1 – 5.4.3.5</u>
IIA8	Loading dock weatherseals: Weatherseals at loading docks shall be visually verified.	Prior to final construction inspection	Approved construction documents	[C402.4.6] <u>C402.5.6;</u> ASHRAE 90.1 – 5.4.3.3
IIA9	Vestibules: Required entrance vestibules shall be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	[C402.4.7] <u>C402.5.7;</u> ASHRAE 90.1 – 5.4.3.4
IIB	Mechanical and Service Water Heating Inspections			
IIB1	Fireplaces: Provision of combustion air and tight-fitting fireplace doors shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents; ANSI Z21.60 (see also MC 904), ANSI Z21.50	[C402.2.9] <u>C402.2.7;</u> BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IIB2	Shutoff dampers: Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature shall be reviewed to verify that the product has	As required during installation	Approved construction documents; AMCA 500D	[C403.2.4.4] <u>C403.2.4.3;</u> ASHRAE 90.1 – 6.4.3.4

	been tested and found to meet the standard.			
IIB3	<p>HVAC-R and service water heating equipment: Equipment sizing, efficiencies, <u>pipe sizing</u> and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, shall be verified by visual inspection and, where necessary, review of manufacturer's data.</p> <p>Pool heaters and covers shall be verified by visual inspection.</p>	Prior to final plumbing and construction inspection	Approved construction documents, <u>ASHRAE 183</u> , <u>ASHRAE HVAC Systems and Equipment Handbook</u>	C403.2, C404.2, [C404.7] <u>C404.5</u> , <u>C404.9</u> , C406.2; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, <u>6.4.5</u> , <u>6.4.6</u> , 6.5.11, 6.8.1; 7.4, 7.8
IIB4	<p>HVAC-R and service water heating system controls: No less than 20% of each type of required controls [and economizers] shall be verified by visual inspection and tested for functionality and proper operation. Such controls shall include, but are not limited to:</p> <ul style="list-style-type: none"> • Thermostatic • [Set point overlap restriction] • Off-hour • [Shutoff damper] • <u>Zones</u> • [Snow-melt system] • <u>Freeze protection/Snow- and ice-melt system</u> • <u>Ventilation System and Fan Controls</u> • [Demand control systems • Outdoor heating systems • Zones • Economizers • Air systems • Variable air volume fan • Single Zone Cooling Systems] • <u>Energy recovery systems</u> • <u>Kitchen/lab exhaust systems</u> • <u>Fan systems serving single and multiple zones</u> • <u>Outdoor heating systems</u> 	After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing shall be performed before sign-off for issuance of a Final Certificate of Occupancy	Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable	[C403.2.4] C403.2, [C403.2.5.1, C403.2.11,] C403.3, C403.4, <u>C403.5</u> , [C404.3] C404.6, C404.7, <u>C404.9</u> ; ASHRAE 90.1 – 6.3, 6.4, 6.5, <u>6.6</u> 7.4.4, 7.4.5

<ul style="list-style-type: none"> • <u>HVAC control in hotel/motel guest rooms</u> • <u>Air/Water Economizers & controls</u> • Hydronic systems • Heat rejection [equipment fan speed] <u>systems</u> • [Complex mechanical systems serving multiple zones • Ventilation • Energy recovery systems] • Hot gas bypass limitation • [Temperature • Service water heating • Hot water system • Pool heater and time switches • Exhaust hood • Radiant heating systems • HVAC Control in Group R-1 Sleeping Rooms] • <u>Refrigeration systems</u> • <u>Door switches</u> • <u>Computer room systems</u> • <u>Service water heating systems</u> • <u>Pool heater and time switches</u> <p>Controls with seasonally dependent functionality: Controls whose complete operation cannot be demonstrated due to prevailing weather conditions typical of the season during which progress inspections will be performed shall be permitted to be signed off for the purpose of a Temporary Certificate of Occupancy with only a visual inspection, provided, however, that the progress inspector shall perform a supplemental inspection where the controls are visually inspected and tested for functionality and proper operation during the next immediate season thereafter.</p> <p>The owner shall provide full access to the progress inspector within two weeks of the progress inspector's request for such access to perform the progress inspection.</p> <p>For such supplemental inspections, the Department shall be notified by the approved progress inspection agency of</p>			
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	any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.			
IIB5	<p>HVAC-R insulation and sealing: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values.</p> <p>Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.</p>	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible	[C403.2.7, C403.2.8, C404.5] <u>C403.2.9</u> , <u>C403.2.10</u> , <u>C404.4</u> ; MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIB6	<p>Duct leakage testing: For duct systems designed to operate at static pressures in excess of 3 inches w.g. ([746]747 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, per ECC [C403.2.7.1.3]<u>C403.2.9.1.3</u> or ASHRAE 90.1 6.4.4.2.2, shall be tested to verify that actual air leakage is below allowable amounts.</p>	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual	[C403.2.7.1.3] C403.2.9.1.3; ASHRAE 90.1 – 6.4.4.2.2
IIC	Electrical Power and Lighting Systems			
IIC1	<p>Electrical energy consumption: The presence and operation of [individual] <u>all required meters for [or other means of monitoring individual apartments] monitoring total electrical energy usage, system energy usage, tenant energy usage, or electrical energy usage in the building, in individual dwelling units, or in tenant spaces</u> shall be verified by visual inspection [for all apartments and where required in a covered tenant space].</p>	Prior to final electrical and construction inspection	Approved construction documents	[C405.7] <u>C405.6</u> ; <u>ASHRAE 90.1 – 8.4.3, 8.4.5, 10.4.5</u>
IIC2	<p>Lighting in dwelling units: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.</p>	Prior to final electrical and construction inspection	Approved construction documents	C405.1; ASHRAE 90.1 – 9.1.1
IIC3	<p>Interior lighting power: Installed lighting shall be verified for compliance with the lighting power allowance by visual</p>	Prior to final electrical and construction	Approved construction documents	[C405.5] <u>C405.4.2</u> , <u>C405.9.1</u> ,

	inspection of fixtures, lamps, ballasts and transformers.	inspection		C406.3; ASHRAE 90.1 –9.1, 9.2, 9.5, 9.6; 1RCNY §101- 07(c)(3)(v)(C) 4
IIC4	Exterior lighting power: Installed lighting shall be verified for compliance with source efficacy and/or the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.6; ASHRAE 90.1 –[9.4.3]9.4.2; 1RCNY §101- 07(c)(3)(v)(C) 4
IIC5	Lighting controls: Each type of required lighting controls, including: <ul style="list-style-type: none"> • occupant sensors • manual interior lighting controls • light-reduction controls • automatic lighting shut-off • daylight zone controls • sleeping unit controls • exterior lighting controls shall be verified by visual inspection and tested for functionality and proper operation.	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	<u>C402.4.2.1</u> , C405.2; ASHRAE 90.1 – 9.4.1, <u>9.4.3</u> [(as modified by section ECC A102)]
[IIC6]	[Exit signs: Installed exit signs shall be visually inspected to verify that the label indicates that they do not exceed maximum permitted wattage.]	[Prior to final electrical and construction inspection]	[Approved construction documents]	[C405.4; ASHRAE 90.1 – 9.4.2]
<u>IIC6</u> [IIC7]	Electric motors (including but not limited to fan motors): Where required by the construction documents for energy code compliance, motor listing or labels shall be visually inspected to verify that they comply with the respective energy requirements in the construction documents.	Prior to final electrical and construction inspection	Approved construction documents	[C403.2.10] <u>C403.2.12</u> , <u>C405.8</u> ; ASHRAE 90.1 – 10.4
IID	Other			
IID1	Maintenance information: Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems shall be inspected for accuracy and	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of	C303.3, C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

	completeness.		Operating and Maintenance Documentation for Building Systems	
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**NEW YORK CITY LAW DEPARTMENT
DIVISION OF LEGAL COUNSEL
100 CHURCH STREET
NEW YORK, NY 10007
212-356-4028**

**CERTIFICATION PURSUANT TO
CHARTER §1043(d)**

RULE TITLE: Amendment of Rules Implementing Energy Code

REFERENCE NUMBER: 2016 RG 101

RULEMAKING AGENCY: Department of Buildings

I certify that this office has reviewed the above-referenced proposed rule as required by section 1043(d) of the New York City Charter, and that the above-referenced proposed rule:

- (i) is drafted so as to accomplish the purpose of the authorizing provisions of law;
- (ii) is not in conflict with other applicable rules;
- (iii) to the extent practicable and appropriate, is narrowly drawn to achieve its stated purpose; and
- (iv) to the extent practicable and appropriate, contains a statement of basis and purpose that provides a clear explanation of the rule and the requirements imposed by the rule.

/s/ STEVEN GOULDEN
Acting Corporation Counsel

Date: May 24, 2017

**NEW YORK CITY MAYOR'S OFFICE OF OPERATIONS
253 BROADWAY, 10th FLOOR
NEW YORK, NY 10007
212-788-1400**

**CERTIFICATION / ANALYSIS
PURSUANT TO CHARTER SECTION 1043(d)**

RULE TITLE: Amendment of Rules Implementing Energy Code

REFERENCE NUMBER: DOB-85

RULEMAKING AGENCY: Department of Buildings

I certify that this office has analyzed the proposed rule referenced above as required by Section 1043(d) of the New York City Charter, and that the proposed rule referenced above:

- (i) Is understandable and written in plain language for the discrete regulated community or communities;
- (ii) Minimizes compliance costs for the discrete regulated community or communities consistent with achieving the stated purpose of the rule; and
- (iii) Does not provide a cure period because a cure period is not practicable under the circumstances.

/s/ Najma Ali
Mayor's Office of Operations

May 25, 2017
Date